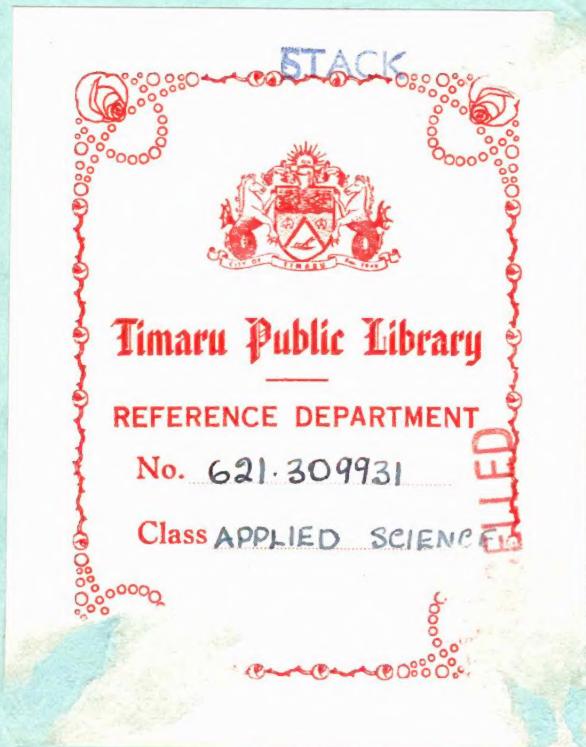


Report of the  
Commission of Inquiry  
into the  
Distribution of Electricity

December 1959

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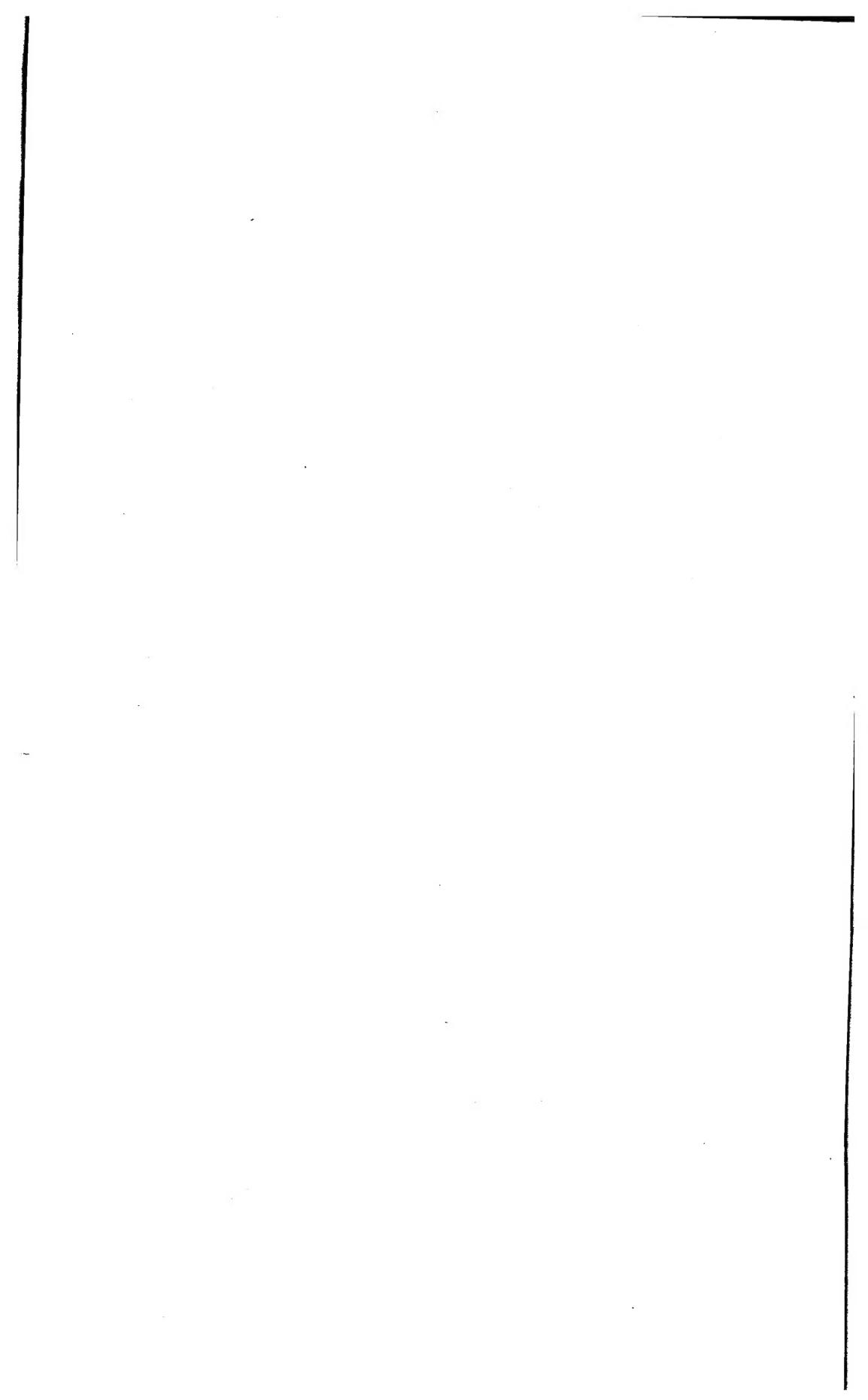


REPORT OF THE  
COMMISSION OF INQUIRY  
INTO THE  
DISTRIBUTION OF ELECTRICITY

DECEMBER 1959

BY AUTHORITY:  
R. E. OWEN, GOVERNMENT PRINTER, WELLINGTON, NEW ZEALAND—1959

17 OCT 1961



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*Appointing a Commission to Inquire Into the Distribution of Electricity*

COBHAM, Governor-General

ORDER IN COUNCIL

To all to whom these presents shall come, and to: the Honourable Sir JOSEPH STANTON, Knight Bachelor, retired Judge of the Supreme Court of New Zealand; ROLF CHERRY ADAMS, of Auckland, Registered Engineer; and FRANK RHODES, of Christchurch, Public Accountant.

GREETING:

PURSUANT to the Commissions of Inquiry Act 1908, I, Charles John, Viscount Cobham, the Governor-General of New Zealand, acting by and with the advice and consent of the Executive Council, hereby appoint you, the said

The Honourable Sir JOSEPH STANTON  
ROLF CHERRY ADAMS, and  
FRANK RHODES,

to be a Commission to inquire into and report upon the following matters:

- (a) The organisation and efficiency of the distribution of electricity in New Zealand;
- (b) The nature and number of distributing authorities, and their areas of supply and boundaries;
- (c) Their powers and functions;
- (d) The methods available to and used by distributing authorities for the financing of their construction programmes;
- (e) Their powers to dispose of their surplus funds outside the field of electric supply, and the manner in which those powers are exercised;
- (f) Whether any legislation is necessary or expedient to alter or control the present systems of charging and tariffs adopted by the distributing authorities, with particular reference to the provision of a greater degree of uniformity in their retail charges;
- (g) Any legislation required to give effect to any recommendations made by you as a result of the inquiry;

And with the like advice and consent I hereby appoint you, the said Honourable Sir Joseph Stanton to be Chairman of the Commission:

And for the better enabling you to carry these presents into effect you are hereby authorised to conduct any inquiry under these presents at such times and places as you deem expedient, with power to adjourn from time to time and from place to place as you think fit, and so that these presents shall continue in force and the inquiry may at any time and place be resumed although not regularly adjourned from time to time or from place to place:

And it is hereby declared that the powers hereby conferred shall be exercisable notwithstanding the absence at any time of any one of the members hereby appointed so long as the Chairman or a member deputed by the Chairman to act in his stead and one other member be present and concur in the exercise of such powers:

And it is hereby further declared that you have liberty to report your proceedings and findings under this Commission from time to time as you judge it expedient so to do:

And you are hereby strictly charged and directed that you shall not at any time publish or otherwise disclose, save to me in pursuance of these presents or by my direction, the contents or purport of any report so made or to be made by you, or any evidence or information obtained by you in the exercise of the powers hereby conferred upon you except such evidence or information as is received in the course of a sitting open to the public.

And, using all diligence, you are required to report to me in writing under your hands not later than the 31st day of August 1959, your findings and opinions on the matters aforesaid, together with such recommendations as you think fit to make in respect thereof.

Given in Executive Council under the hand of His Excellency the Governor-General this 25th day of February 1959.

T. J. SHERRARD, Clerk of the Executive Council.

*Extending the Time Within Which a Commission Appointed to Inquire  
Into the Distribution of Electricity is Required to Report*

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COBHAM, Governor-General

By his Deputy

J. D. HUTCHISON

ORDER IN COUNCIL

To the Honourable Sir JOSEPH STANTON, Knight Bachelor, retired Judge of the Supreme Court of New Zealand; ROLF CHERRY ADAMS, of Auckland, Registered Engineer; and FRANK RHODES, of Christchurch, Public Accountant.

GREETING:

PURSUANT to the Commissions of Inquiry Act 1908, I, Charles John, Viscount Cobham, the Governor-General of New Zealand, acting by and with the advice and consent of the Executive Council, hereby extend to the 31st day of December 1959 the time within which you, as a Commission appointed by Order in Council, dated the 25th day of February 1959,\* to inquire into certain matters relating to the distribution of electricity in New Zealand, are required to report to me your findings and opinions on those matters.

Given in Executive Council under the hand of His Excellency the Governor-General, this 12th day of August 1959.

T. J. SHERRARD, Clerk of the Executive Council.

\**Gazette*, 26 February 1959, p. 237

COMMISSION OF INQUIRY INTO THE DISTRIBUTION OF  
ELECTRICITY

To His EXCELLENCY THE RIGHT HONOURABLE VISCOUNT COBHAM,  
Knight Grand Cross of the Most Distinguished Order of Saint  
Michael and Saint George; upon whom has been conferred the  
Territorial Decoration, Governor-General and Commander-in-Chief  
in and over New Zealand.

MAY IT PLEASE YOUR EXCELLENCY,—

We, the undersigned Commissioners appointed by Warrant dated  
25 February 1959, have the honour to present to Your Excellency our  
report under the terms of reference stated in that Warrant. We were  
originally required to present our report by 31 August 1959, but this  
date was extended by later Warrant to 31 December 1959.

We have the honour to be,  
Your Excellency's most obedient servants,

J. STANTON, Chairman.  
R. C. ADAMS, Member.  
F. RHODES, Member.

Dated at Wellington this 4th day of December 1959.

## R E P O R T

### PART I : INTRODUCTORY

#### **Outline of Proceedings**

1. After giving consideration to preliminary questions relating to the best means of conducting the proposed investigation the Commission decided that a general invitation should be extended to all interested persons and organisations to place their views before the Commission. It was also decided that interested persons and organisations should be given the opportunity of appearing personally or of being represented at public hearings conducted by the Commission. Accordingly, following the gazetting of the Warrant appointing the members of the Commission and determining the order of reference on 26 February 1959, suitably worded advertisements were inserted in the daily newspapers, and letters were sent to all electrical supply authorities and to other organisations considered to be interested in making submissions.

2. In particular, the Commission invited the Electric Power Boards of New Zealand Incorporated, the Electrical Supply Authorities Association, the Municipal Electricity Supply Authorities Association, and the New Zealand Electricity Department to submit evidence on the matters that were the subject of the inquiry.

3. The Commission decided that it would be advisable to delay the commencement of the public hearings until May, as it was felt that intending witnesses could not reasonably be expected to complete the preparation of their main submissions before the end of April. There would be the interruption of the Easter break, and the end of March was normally a busy time for most organisations. Public notice was therefore given that the sittings of the Commission would commence in Wellington on Wednesday, 13 May.

4. Public interest in the inquiry increased as the hearings proceeded and was reflected in the growing lists of intending witnesses. It became evident to the Commission within a very short time that the hearing of evidence could not possibly be completed in time for a report to be prepared by the given date of 31 August 1959. An extension of time to 31 December was therefore sought and this was granted by Warrant dated 12 August 1959.

#### ***Procedure***

5. The procedure adopted by the Commission and followed throughout the public hearings required that all evidence was to be given under oath, and that the person presenting the evidence was to be subject to cross-examination. The right of cross-examination was in general limited to counsel representing any person or organisation appearing before the Commission, to Counsel assisting the Commission and the members of the Commission. Persons appearing before the Commission and who wished to cross-examine were required to apply to the Commission for permission to do so. Counsel where they appeared were given the right to make an opening submission and a closing submission if they so desired.

6. Persons appearing before the Commission were expected to read any written submissions and this requirement was observed throughout the first Wellington sitting and the Auckland and Dunedin sittings. It was discontinued after the opening day of the Christchurch sitting and for the whole of the second Wellington sitting, in all cases where the documents were received in advance and circulated among interested parties, in order to shorten the time of the hearings which were being greatly prolonged by lengthy cross-examination of witnesses.

#### *Details of Public Hearings*

7. The public hearings commenced on 13 May and continued with short adjournments from time to time to 25 August 1959. In all, the hearings occupied 37 sitting days, of which 20 were in Wellington, 6 in Auckland, 3 in Dunedin, and 8 in Christchurch. The transcript of proceedings covered 2,317 single-spaced foolscap sheets of typing. With the written submissions included, this made a total of 3,802 sheets containing approximately 1,970,000 words.

8. In Appendix A to this report is listed the names of the witnesses and the counsel who appeared at the public hearings. Evidence was presented orally on behalf of 96 organisations, Government Departments, and private individuals, and 132 witnesses appeared before the Commission. All those who appeared did so voluntarily in response to the invitations extended by the Commission by letter and public advertisement.

#### *Written Submissions*

9. In addition to the evidence presented orally the Commission received and considered 58 written submissions where no appearance was sought. The names of the persons and organisations that made such submissions are contained in Appendix B to this report. Copies of their submissions have been included in the bound volumes of the proceedings of the Commission.

#### *General*

10. The evidence accumulated at the public hearings reached voluminous proportions and, as was to be expected, was contributed to largely by the electrical supply authorities and their associations. At the same time a considerable body of opinion was received from numerous individuals and organisations outside the electric power industry especially in reference to the charges for electricity. Representatives of the gas industry, a number of individual commercial consumers, and various retailers' associations, non-profit making organisations, housewives unions, consumers organisations, electrical traders associations, as well as a large number of private persons, assisted the Commission with submissions of a helpful nature in most instances.

11. Most of the electrical supply authorities were represented directly at the hearings and were, in addition, represented collectively by associations to which they belonged. One association represented the electric power boards, another the municipal electricity authorities, and still another jointly represented both classes of distributing authority. The three associations gave evidence separately and by far the great majority of electricity authorities made submissions individually. It

could be said in general terms that some 97 per cent of the electricity consumers were represented at the hearings by their local electricity authorities.

### **General Comments**

12. While there was – perhaps inevitably – a tendency for those making submissions to confine their attention to their own particular problems and interests we were considerably assisted by some contributions which were objective and broad in outlook, and we were indebted to all contributors for the comprehensive and complete presentation of factual information about the various aspects of our inquiry. We were particularly grateful for the mass of information provided for us by the New Zealand Electricity Department and for the assistance this Department and its officers gave us in considering and evaluating the suggestions made to us.

### *Statistical Information*

13. We naturally relied very largely on the published statistics relating to electrical supply authorities and we were concerned to find that some criticism of these statistics was made, some authorities stating that they did not agree with the figures the authorities themselves presented and others saying that information supplied by various authorities was compiled on differing bases. We think that supply authorities could be more correct and consistent in preparing their statistical returns and following more closely the instructions printed on the forms. However, in drawing comparisons between different authorities we felt we had no alternative but to accept and act on the published statistics and, in doing so, we hope that they will not be found to be materially at variance with the actual facts.

### *Form of Report*

14. In framing our report we have thought it desirable in the interests of brevity and clarity to avoid detailed discussion of submissions and extensive reference to statistics in the text. However, for the sake of completeness, we have included extracts from some of the main submissions and extensive statistical detail as appendices to our report.

### *Staff*

15. The members of the Commission desire to express their great appreciation of the assistance given to them by Mr C. W. G. Bearman as secretary of the Commission and Mr J. W. Bain as counsel assisting the Commission. Their wide knowledge and assiduous devotion to the work of the Commission enabled both these gentlemen to make an essential contribution to the completeness and value of our report. We also wish to express our appreciation of the services rendered by the members of the staff of the Electricity Department who were attached to us throughout the inquiry, and also the reporting staff of the Public Service Commission who so ably reported the proceedings.

### **Historical Survey**

16. The first generating station for the supply of electricity for public use was installed in 1887 in Reefton. In the following year a generating station was installed in Wellington. Both stations were erected and

operated by limited liability companies. Further stations were installed in the succeeding years and as was to be expected, all the stations were in urban areas where the density of population and the existence of financial resources made electrical reticulation relatively easy. At this time the Government had concerned itself only with making provision for the safety and protection of electric lines and in 1896, by the Electric Motive Power Act of that year, it prevented local authorities from granting concessions to private persons or companies without Government consent.

17. In 1903 the Government had an Act passed – the Water Power Act 1903 – which vested in the Crown, with some immaterial exceptions, the right to use water from any lake, fall, river, or stream for the generation or storage of electricity or other power. In the following year Mr P. S. Hay, Superintending Engineer of the Public Works Department, presented to Parliament a comprehensive report on available water-power resources with a careful analysis of the anticipated demand for power and of the costs and relative advantages of hydro-electric generation. Acting on this report the Government decided to proceed with the national development of the country's hydro electrical resources. It did not, however, keep such development entirely in its own hands and from time to time allowed local bodies and others to construct and operate their own hydro-electric generating stations. In 1910 the Aid to Water-power Works Act was passed authorising the Government to borrow £500,000 for hydro electric development, and in the same year the Minister of Public Works (Hon. R. McKenzie), in his Public Works Statement said:

“As already announced in the Financial Statement, the Government considers that the time has now arrived to take up with vigour the question of developing our abundant water-powers. The Prime Minister (The Rt. Hon. Sir Joseph Ward) promised that proposals should be submitted to undertake one or more schemes, and to extend the work from time to time until all our centres of population have been supplied with hydro-electric energy and until our principal sources of power have been turned to commercial advantage.”

18. The views of the Government at that time are indicated in a report dated 26 October 1910 by Mr Lawrence Birks in which he said, referring to his instructions to report on the future of electric power supplies:

“In considering this question I understand it is to be approached with the object of conferring a public utility, improving the conditions of life of the people, and assisting in the development of the Dominion generally, rather than of yielding a large source of revenue to the Government. At the same time each undertaking must show a reasonable prospect of proving self supporting, not only by paying interest and sinking fund but also by building up a reasonable reserve or depreciation fund, so that the whole system can be kept up to the requirements without falling back on loan-moneys for necessary replacements or renewals.”

19. The Government proceeded with the erection of hydro-electric generating stations and the first one (Lake Coleridge) commenced to deliver power in 1915. Many more stations have since been put in hand and at the present time hydro-electric and thermal generating

stations completed and in the course of erection by the Government represent, with their distribution and ancillary works, a capital outlay of approximately £182,000,000. The whole of the State-owned stations produced in the year ending March 1959 a total of 5,363,053,148 units, representing approximately 94·5 per cent of the total output of all generating stations in New Zealand.

20. While the generation and wholesale distribution of electricity has in the main been developed as a State enterprise the retail reticulation and sale has been entrusted to local bodies, and for this purpose a new type of local body to be solely concerned with electrical activities was created and called an electric-power board and its constitution as an elected body was prescribed in the Electric-power Boards Act 1918, now embodied in the Electric-power Boards Act 1925. Serious consideration was given to—

- (i) Whether the power board system should be made mandatory so that only these boards should be allowed to undertake the retail distribution of electricity; and
- (ii) The correct areas into which the Dominion should be divided in setting up the new boards.

21. It was felt in official circles that the whole Dominion should be divided into power board districts and that each district should, if possible, include both town and country areas based on a community of interest. It was also considered that the districts must be of considerable size to ensure the possession of sufficient financial and technical resources. It was suggested by the then Chief Electrical Engineer, Mr Birks, that there might be 54 districts to cover the whole Dominion, a figure which he later reduced to 41.

22. In the result the Government did not make the power board system mandatory but left each area to decide whether or not it would become part of a power board district and, where a local body already had its own distributing system, whether it would continue to control and operate it. The Government, apparently in an effort to help power boards, did in some cases refuse to supply power direct to a territorial local authority which elected to retain its own distribution, and compelled it to purchase any State generated power it required from a neighbouring power board. The Government also adopted the policy that, when an area already serviced by a power board was added to the district of a borough or city council having its own distribution system, the added area must remain under the jurisdiction of the power board, but in a few cases this was not required.

23. The present position is that there are 83 electrical supply authorities in New Zealand of whom 44 are power boards, 29 city or borough councils, 4 county councils, 2 town councils, 2 Government Departments, and 2 companies.

These authorities purchase power in bulk as follows:

Forty power boards buy direct from the New Zealand Electricity Department at uniform maximum demand rates fixed from time to time by the Department. Four power boards generate the greater part of their own requirements and take a supplementary supply from the State at special rates per kilowatt-hour:

Eight municipalities and two county councils buy direct from the State at the same maximum demand rates as power boards:

Three borough councils and one county council have independent generating stations but purchase some of their requirements from the State at special rates in three cases per kilowatt-hour, and in one case a two-part tariff:

Eighteen municipalities purchase their bulk supplies from power boards:

One county council generates all its requirements but arrangements have been made for it to receive supplies of State power from a power board:

Two municipalities purchase their bulk supplies from the Southland Electric Power Supply, which is a Government Department functioning as a power board. The other Government Department which functions as a power board is the Tourist Department which controls the distribution of electricity in the borough of Rotorua and adjoining areas.

The territorial authorities which obtain supply from power boards all pay a higher price for their bulk supplies than power boards themselves pay, the amount in each case being determined by agreement between the parties concerned or if they cannot agree then by arbitration.

Details of all these categories are shown in Appendix C.

24. Some distributing authorities own and operate generating stations from which they draw a portion of their requirements. In most cases these stations are integrated with the State supply, but in others the generating authorities are allowed to operate their stations so as to control their peak loads and thus to enjoy a material advantage over other authorities in the price they pay to the State. Some municipalities control distribution in considerable areas outside their territorial boundaries and some have substantial areas within their boundaries in which they do not provide the distribution. The New Zealand Electricity Department supplies direct to some consumers at retail rates although these consumers are in local supply districts. Particulars of the areas and populations of all the electrical supply authorities are given in Appendix D.

25. At the present time the sale of electricity in New Zealand can hardly fail to be profitable. The demand for power is increasing so rapidly and continuously that there is always a difficulty in providing a sufficient supply and actual shortages are not uncommon. The State and the local bodies have a complete monopoly in their respective spheres and neither is required to pay any income tax. The nature of power boards is such that any profit made can only be used for electrical purposes but the profits made by territorial local authorities can be and frequently are used for other purposes. Such local authorities in addition derive larger or smaller benefits from having their own distribution systems, and, in some cases, generating stations, and they not unnaturally wish to retain these benefits. In addition they mostly comprise urban areas which from their density of population are relatively cheap to reticulate, and in consequence their inhabitants enjoy both lower charges for electricity and some relief in the rates they would otherwise have to pay. It is true that there are some exceptions. The Kaikoura County Council has the highest charges of any supply authority, its average revenue per unit sold being 5·473d., the next is the Amethyst Power Co. Ltd. 2·605d. per unit, and the third is the Bluff Borough Council 2·263d. per unit, but these are exceptional cases. The better comparison is between power boards and municipalities in the same

area and there it is usually the case that the average revenue per unit sold is lower in the municipality than in the adjoining power board. In the city of Timaru for instance the average revenue per unit is 1·185d. as compared with 1·829d. in the surrounding South Canterbury Electric Power Board area. Still greater is the difference between the rates for domestic supply, that in Timaru being 0·811d. and in the power board area 1·725d. Where, as in Timaru, the boundary between the two spheres of influence is a street, domestic consumers find their charge for a supply from the board on the one side of the street is more than double that paid for a similar supply from the city on the other side, though both sides are within the territorial area of the city. The power board suggests that the proper remedy is to bring the city into the board's area while the city suggests that it should take over control of the whole of the area within its boundaries which would, of course, add to the power board's difficulties by depriving it of its most closely settled and therefore most profitable area.

26. Another fact that emerges is that many municipal supply authorities own and operate gasworks and in some cases these operate at a loss which is made up out of electricity profits.

27. Before leaving the question of municipal supply authorities we should mention the Rural Electrical Reticulation Council. This is a body which was set up in 1945 to assist supply authorities which had costly and uneconomic extensions into rural areas. It is empowered to levy up to 0·25 per cent of the gross revenue of the New Zealand Electricity Department and of all supply authorities and to grant subsidies to supply authorities towards the annual costs of approved rural extensions. The revenue of the Council for the financial year ended 31 March 1959 was £80,065 towards which the municipal supply authorities contributed £15,224, power boards £37,042, and the Electricity Department £27,362. A fuller review of the activities of the Council has been provided by the Electrical Supply Authorities Association and is set out in Appendix E.

28. Power boards having been constituted by voluntary local action their size and configuration have been somewhat haphazard. They vary in size from 4,765 square miles (Otago) to 147 square miles (Cambridge), and in population from 324,710 (Auckland) to 2,760 (Teviot). The largest district is that of the Southland Electric Power Supply (administered by the Government) 11,096 square miles but including a very large area of unoccupied country, and the smallest, Inglewood and Riccarton boroughs which are each 1·1 square miles, the latter receiving a direct supply of bulk power from the Government. Except for minor alterations, the power boards have remained unaltered since their original constitution. In view of the great changes that have taken place during the last 40 years it may well be that some regrouping and readjustment of boundaries could with advantage be considered.

29. Another result of the method of voluntary local action in the creation and administration of power boards is the bewildering diversity in their tariffs. Some justification for this no doubt exists owing to the varied circumstances and local peculiarities of load in the various districts, but it seems apparent that insufficient thought has been given to the advantages of simplified tariffs easily understood by consumers, and to the principles which should guide supply authorities in framing tariffs

for different classes of consumers. In the majority of cases domestic consumers have been given specially favoured treatment, even to the extent in some cases of receiving supply at less than the price paid by the authority for bulk power. It is difficult to avoid the conclusion that members of the supply authorities have been influenced by the fact that domestic consumers are the great majority of the voters and are accordingly to be placated as much as possible. A similar consideration would appear to have actuated the Government when in 1958 they stipulated that the benefit of the reduction then made in the price previously intended to be charged for bulk supplies should be confined to domestic consumers. The time is opportune to consider what can be done to simplify tariffs, to determine the proper differentiation between classes of consumers, and to assimilate charges so that price differences in the various areas may be, if not eliminated, reduced as far as may be found to be practicable.

## PART II: ORDER OF REFERENCE

30. The Commission is required to inquire into and report upon:
- (a) The organisation and efficiency of the distribution of electricity in New Zealand;
  - (b) The nature and number of distributing authorities, and their areas of supply and boundaries;
  - (c) Their powers and functions;
  - (d) The methods available to and used by distributing authorities for the financing of their construction programmes;
  - (e) Their powers to dispose of their surplus funds outside the field of electric supply, and the manner in which those powers are exercised;
  - (f) Whether any legislation is necessary or expedient to alter or control the present systems of charging and tariffs adopted by the distributing authorities, with particular reference to the provision of a greater degree of uniformity in their retail charges;
  - (g) Any legislation required to give effect to any recommendations made by you as a result of the inquiry:

We have thought it desirable to group together the various matters referred to us as it was found more convenient to discuss them together than to attempt to segregate the separate paragraphs.

### Basic Electrical Policy

31. From the foregoing review it will be seen that the basic policy for the generation and distribution of electricity in New Zealand has been as follows:

- (i) Generation by the State including the construction and control of main transmission lines to local points of supply.
- (ii) Sale of power in bulk by the State at uniform maximum demand prices fixed by it delivered at the points of supply to power boards, which construct and control reticulation with necessary substations, transformers, etc., for retail distribution and fix the charges to be paid by consumers.

32. It will also be seen that important departures from this policy have been made so that:

- (i) Some distributing authorities have been allowed to own and operate generating stations.
- (ii) (a) Bulk power is sold to some territorial authorities at the same maximum demand rates as to power boards and resold retail by them:
  - (b) Other territorial authorities have been allowed to have control of retail distribution in their particular areas, purchasing their supplies in bulk from power boards:
  - (c) In some few cases arrangements have been made for sale of bulk power to power boards and territorial local authorities at special rates per kilowatt-hour instead of on maximum demand.
- (iii) Some concerns are supplied direct by the State as retail consumers.

## **Generating Stations**

33. As our inquiry is limited to the distribution of electricity, we are not concerned with the generating activities of the State except to make the following comments:

- (i) Maximum efficiency of distribution can only be assured by the provision of adequate and continuous supplies of power. We have no doubt that the Electricity Department fully appreciates this.
- (ii) The price charged for bulk power and the method of calculating it is reflected in the costs, and dominates the policy, of distributing authorities in formulating tariffs. The price now charged is £4 per kilowatt per quarter, calculated on the average of the three highest peaks in the quarter. It was urged by some of the witnesses—mainly those representing the gas industry—that a better method of calculating the price would be to adopt the English system of a two-part tariff. This was not approved by the power boards which consider that they are now geared to the present system and prefer its continuance. We agree that under present conditions in New Zealand the existing system is sound, but we venture to think that if the stimulus of charging on maximum demand leads to selling at unduly low rates for off-peak power or undue control of peak demand operates to the detriment of consumers, it may be advisable to adopt a two-part tariff based partly on peak demand and partly on units consumed, especially if we should be plagued by shortages of water in the storage reservoirs.
- (iii) The owning of a generating station by a distributing authority can favourably affect the cost of power to that authority. We think that as a matter of principle all generating stations for public purposes should be either owned and operated by the State or operated by the owner on behalf of the State. The ownership of all water power having been vested in the State no part of it should—except in special circumstances and for special reasons—be used for the benefit of local areas instead of for the benefit of the Dominion as a whole. Implementation of this policy would tend to make the cost of power more uniform to all distributing authorities and is a fitting corollary to the present policy of the State in selling bulk power to all distributors at a uniform price.

## **Distribution of Electricity**

34. A great deal of evidence was submitted to us as to the organisation and operation of many supply authorities but it was not suggested that their personnel were technically inefficient. Mr A. E. Davenport, the General Manager of the New Zealand Electricity Department, said that he agreed that they were efficient. In 1956 it was estimated that 94 per cent of the occupied dwellings in New Zealand were supplied with electricity and the proportion at the present time is probably higher. This is admittedly good by world standards and, generally speaking, the prices charged for electricity in New Zealand are relatively low. It was

however suggested that the efficiency of electrical distribution could be materially improved so as to give—

- (a) Greater assistance by urban areas to the cost of rural reticulation and supply.
- (b) Better diversity of load in supply districts.
- (c) More economical operation in the supply districts.
- (d) Closer assimilation of charges in the supply districts.

35. Two alternative methods of securing these objects were put forward. In the first place it was suggested—

- (a) That all distribution be transferred to power boards, thus eliminating territorial local authorities as distributors and abolishing the possibility of diverting electrical profits to other purposes.
- (b) That with distribution entirely in the hands of power boards there should be a regrouping of districts so as to obtain the maximum advantages of load diversity, combination of urban and rural areas, and the economical and efficient use of technical and financial resources.

36. The other method suggested was that the territorial authorities should be left in control of their present systems and some help for the poorer power boards should be provided as follows:

- (a) That the Rural Reticulation Fund should be increased and the objects extended to include assistance in tariff adjustment.
- (b) That the Rural Reticulation Council should be reorganised and (it is suggested) constituted of equal representation from power boards and municipalities under the chairmanship of the General Manager of the Electricity Department.
- (c) This Council should determine where need existed not only for rural extensions but also for tariff adjustment.
- (d) The funds for both rural extensions and tariff adjustments should be raised from an increased levy on revenue from retail sales of electricity.

This suggestion was put forward by counsel for the Municipal Electricity Supply Authorities Association, who said a majority of the members of that association supported the scheme but not all.

37. We think there is some virtue in some parts of the municipal authorities' scheme but it has the following serious deficiencies:

- (i) It leaves in existence the anomalous position of a relatively small number of territorial authorities having a favoured position in relation to electrical distribution with the still greater anomaly of even a smaller number having the right to obtain bulk power from the State at power board rates.
- (ii) It leaves these favoured bodies as the only ones entitled to use profits from electrical supply for outside purposes.
- (iii) It ignores the anomalies existing and likely to increase where areas under the jurisdiction of power boards have been or may be brought within the territorial boundaries of municipal supply authorities.
- (iv) It places very great powers of patronage and discrimination in the hands of the proposed Council.

- (v) Even leaving out exceptional cases the variation in potential between the present supply authorities is so large that to secure even near-equality by this means alone a huge annual sum would have to be collected from a small number of supply authorities and paid in widely varying amounts to a large number of authorities. A table prepared by the New Zealand Electricity Department and presented by counsel assisting the Commission based on 1958 statistics shows that to enable all authorities to sell all their units at the average price received by all authorities in that year - 1·03518d. - would require the collection of £1,332,021 per annum from 25 authorities for disbursement to the remaining 58 authorities. A copy of this table is included in this report as Appendix F. The largest contributor would be the Dunedin City Council, £270,647, and the largest beneficiary would be the Southland Electric Power Supply, £184,040.
- (vi) The scheme would tend to destroy incentives for economy and would encourage extravagance.
- (vii) The recurring and frequently disturbing negotiations between power boards and municipalities as to the price to be paid for bulk power would continue.

### Municipal Supply Authorities

38. The outstanding difficulty in the present organisation is the position of the municipal distributing authorities. It seems to us that the present position is neither sound in theory nor fair in practice and therefore ought not to continue in its present form. All the municipalities concerned (with the exception of the Bluff Borough Council) made submissions to us in which they presented strenuous and, in some cases, heart-rending appeals that they be allowed to retain their present advantages. They pointed out that the supply of electricity has been for very many years one of their statutory functions, that in many cases the business of electrical supply was so closely integrated with their administration that its removal would threaten, if not their existence, at least their financial stability. For the most part they were efficiently organised and provided cheaper power for their inhabitants than could be done by any other body. Some of them challenged the propriety of making urban populations contribute substantially to the electrical handicaps of rural districts—it was, they said, not done in any other field of local activity. They also pressed, on similar principles, for the retention of the rights of local bodies in relation to electrical profits and collateral advantages. It was impossible not to feel sympathy with these protagonists, but it was equally impossible to envisage a sound national policy for electrical supply if these bodies remained as entrenched enclaves of advantage in the overall organisation. If, as we think, the time has arrived for a complete overhaul and reorientation of that organisation then the only practicable way of achieving this is by making the power board system complete and compulsory for the whole Dominion, subject perhaps to some exceptional treatment for a few exceptional areas. The principle of combining urban and rural areas and in other ways requiring the former to contribute to a solution of the difficulties of the latter has long been established both in New

Zealand and abroad. This is incorporated in the framework of power boards, is recognised in the establishment of the Rural Electrical Reticulation Council, and is accepted to a certain extent in the submissions of the Municipal Electricity Supply Authorities Association. That this assistance should be applied not only to rural reticulation but to tariff assimilation is logical and right. Progress in national planning and advancement would be otherwise greatly hampered. Municipal supply authorities have not given sufficient consideration to the fact that they owe their very favourable position to their ability to obtain cheap power from the State. If they had to generate electricity themselves the cost would probably be many times what they pay to the State. It cannot be right that they should be enabled to enjoy a national advantage and at the same time be allowed to disregard a national responsibility.

39. We think, too, that the right of these municipalities to divert electrical profits and to obtain other advantages such as cheap power for municipal services from their electrical undertakings should not continue. It is now the possession of a privileged few, and to continue it to the few while denying it to all other territorial authorities is wholly unjustifiable. Even if no other change in the present position were contemplated this anomaly should be removed.

### Objectives for Electrical Supply

40. It may be advisable to say what we think are the proper objectives for electrical supply and then to indicate what we think are the most practicable means of attaining these objectives.

41. Electricity is a commodity which has become a national necessity. It contributes in countless ways to the promotion of prosperity and the creation of comfort. Its use is continually increasing in both volume and variety so that it is probable that succeeding generations will be even more dependent upon it than we are today. This expansion calls for both heavy capital expenditure and a highly skilled technical organisation for efficient distribution. Electricity has two outstanding drawbacks—it cannot be stored in bulk, and there are always substantial losses in transmission. Other problems are inherent in the industry. Expansion of demand or changes in the character of loads and areas may call for extension, reconstruction, or conversion of existing facilities. New methods, materials, or appliances may outdate those in use, and new sources of power may substantially change the organisation of the electrical industry. Maximum efficiency and constant striving for improvement should be the goal of every supply authority.

42. With all generating stations operated by or on behalf of the State and bulk power supplied to each distributing authority at a uniform rate, the distributing authorities should be so organised that:

- (a) In area and resources each should be capable of operating with maximum efficiency and economy.
- (b) As far as practicable urban and rural areas should be combined and other factors so disposed as to secure the best available diversity of load.
- (c) Differences in prices and tariffs should be reduced as much as practicable with the ultimate goal of securing practical uniformity.

## **Method of Securing Objectives**

43. The means we suggest for obtaining these objectives are briefly as follows, it being always understood that while speaking in general terms of the whole Dominion we realise that there may be special areas which call for special treatment.

44. With the whole distribution system in the hands of power boards, unhampered by the existence of self-contained municipal units, it should be possible, and would be advisable, to replan power board districts by substantially increasing their size and so reducing their number. While agreeing that mere increase in size does not necessarily mean increased efficiency, we are satisfied that some areas now separate could with advantage be grouped and that, in the result, economy in reticulation and organisation together with a better balanced load and a higher load factor could be achieved. This would be in the national as well as the local interest.

We think regard should be given to topographical configuration and features and to community of interest. The area should not be so large that it could not be effectively covered by a single-tiered staff.

## **Minimum Size of Undertakings**

45. Evidence was given by Mr I. R. Robinson, a retired engineer and general manager of a power board, regarding the tendency for costs to fall as the number of units sold by a supply authority increases. His table of standard costs for rural authorities (that is those with less than 20 consumers per route mile) is reproduced below.

Units Sold per Annum Millions	Cost per Unit Sold d.	Units Sold per Annum Millions	Cost per Unit Sold d.
5	0·98	60	0·58
10	0·84	100	0·53
20	0·71	150	0·48
40	0·62	200	0·47

46. This table is based on a study of the costs of existing New Zealand undertakings as shown in the 1958 statistics and indicates that significant savings might be expected as the sales of a supply authority increase up to 150 million units per annum.

47. Similarly in the report on the Organisation of Electricity Supply in New South Wales of 3 April 1957 the same tendency appears in the table on page 11 where it is shown that the average administrative and general distribution expenditure decreased from 1·5 to 2·0d. per unit at a sales level of 1 million units per annum, to 0·3 to 0·5d. per unit at a sales level of 40 million units per annum.

48. We have examined the New Zealand statistics for the year ending 31 March 1959 and find that a graphical analysis yields the same general trend even when applied to selling price instead of cost. As the sales of a rural supply authority increase from 5 million to 150 million units per annum, the average retail selling price per unit decreases from approximately 2d. to 1½d. Beyond 150 million units per annum the curve has flattened off so that little further gain may be expected.

49. It must be realised of course that size of undertaking is no substitute for sound engineering and prudent management and also that certain areas have natural advantages such as supply to a very attractive industrial load or to an exceptionally prosperous farming area. Other areas have natural disadvantages such as few consumers per route mile or lower usage per consumer. The effects of management and of natural advantages or disadvantages are inevitably reflected in costs and selling prices. Nevertheless, the general trend towards reduced selling price with increased business is a clear indication that benefit to the consumers may be expected by amalgamation of a number of smaller authorities with their neighbours.

50. In addition to the operating economies that may be expected, the rearrangement of the country into a smaller number of power areas would have the following advantages:

- (i) A marked reduction in the variation of tariff between highest and lowest in the country together with uniformity of tariff and policy over substantial areas. This would obviate much of the dissatisfaction that has been expressed.
- (ii) The new power authorities would have sufficient income to employ the best professional service and to obtain and operate adequate technical facilities and test equipment.
- (iii) The new power authorities would be strong financially and in a good position to improve and maintain their distribution system to give the best possible service to consumers.

### Maximum Size of Undertakings

51. Evidence given as to the maximum desirable size of a power district was that it should be possible for the engineer to leave headquarters, attend to a problem in the remotest part of his district, and return to headquarters in the same day. With such a criterion the maximum area of a district would depend on the standard of roading and also on the location of headquarters. In the case of the Wanganui-Rangitikei Electric Power Board it was stated that no difficulty was experienced in the servicing of Waiouru and out on to the Taihape-Napier road, the maximum distance from the headquarters town of Wanganui being 103 miles.

52. In New Zealand at present the largest power supply area is Southland which is 11,096 square miles, the next largest being Otago, 4,765 square miles, and then North Canterbury, 4,626 square miles. In none of these cases was there any evidence that the area was so large as to become unwieldy or uneconomical to operate. It may be noted that the Area Boards in England (with the exception of London) range from 3,108 square miles to 7,800 square miles, while in New South Wales the consolidation proposed by the Electricity Authority will divide the State into 33 districts of which the 13 largest will vary from 5,758 square miles to 20,781 square miles.

53. No evidence was given that the maximum size of a power authority should be limited by the number of consumers or the number of units sold. In this connection it is of interest that the average Area Board in England supplies over 1,000,000 consumers, that is greater than the whole New Zealand supply, and that there are many undertakings in the United States of America with more than 1,000,000 consumers. In

New South Wales the Sydney County Council supplies 383,000 consumers with an annual demand of over 1,900 million units, many times larger than any authority proposed for New Zealand.

### Overall Plan for Consolidation

54. The plan that we have outlined is for consolidation of the country into 26 power supply areas, each of which would have sufficient business to be able to operate as an efficient unit and yet not so large as to be difficult to control and service. As far as possible each area would contain a balance of rural and urban consumers together with some industrial loading. Limitations due to geographical features and communications have been taken into account and in some cases lead to the choice of an area which is rather small as regards units sold annually. A schedule of suggested amalgamations is shown in Appendix G, from which it will be seen that the new areas would vary between 1,204 and 11,109 square miles instead of between 1 and 11,096 as at present. The average revenue per unit retail based on present rates and without any allowance for savings that will accrue from economy of administration, better technical planning and servicing, and diversity of load would vary from 1·160 to 1·871d. instead of 0·855 and 5·473d. as at present. It would perhaps be possible within this range to have five or six tariffs covering the whole of the North Island. It is to be noted that in many cases, especially where a strong urban authority is combined with a comparatively weak rural neighbour, large benefits accrue to the rural consumer with negligible increase to the urban. For example, in the case of Auckland and Franklin, averaging rates would mean an increase to Auckland of 1·4 per cent with a decrease to Franklin of 13·5 per cent, while in the case of the Christchurch group, the increase to Christchurch would be 0·6 per cent and the decrease to Malvern no less than 32·7 per cent. Similarly in the Wellington group, the increase to Wellington is 4·4 per cent and the decrease to Horowhenua 10 per cent. No allowance has been made for any payment by way of compensation to municipalities but, as will be seen later, if our proposals are accepted, the amount to be so paid will not in any instance be large enough to require any substantial increase in tariffs. We think that in all probability the economies resulting from consolidation will equal or exceed any annual charge for payment of compensation, and in areas where no compensation is to be paid these economies should substantially reduce the increase to present urban consumers. Working on the basis already outlined of what prospective economies are likely we have prepared an estimate for each new district of what we think should be the minimum savings and these are shown as a figure per unit sold retail in the final column of the table in Appendix G. The areas served by the Southland Electric Power Supply and the Rotorua Electric Supply are included in our suggested consolidation. Ultimately we would expect power boards to be formed to take over these areas, but in the meantime and until that happens the respective authorities would remain as Government Departments but with power to take over any municipal electrical undertaking in the same way as if they were power boards.

55. The consolidation we have suggested is shown on the maps appearing in Appendix H, but the final delimitation of areas could only be determined by a careful survey of the various districts and we shall suggest later the setting up of a body to undertake this.

56. Before leaving this section we should like to refer to the comments made by the Electricity Authority of New South Wales in a report of the 3 April 1957 previously quoted. This body made a comprehensive review of the distribution organisation for the whole of the State and came to the following specific conclusions:

- (a) The combined area of a town and the surrounding countryside should clearly be served by one electricity undertaking.
- (b) That electrical distribution should be controlled by a special authority - there called a county council - which has no other functions or purposes, rather than by a multi-purpose local authority.
- (c) That distributing authorities should be of some minimum size and suggested that the smallest size for reasonable efficiency was a body with an annual expenditure of the order of £250,000 and capable of employing a Chief Electrical Engineer, an assistant Chief Electrical Engineer, and at least one junior engineer.
- (d) That a subsidy towards the cost of rural reticulation was essential.
- (e) That there was considerable merit in the system of local government control of distribution "for properly organised local control can provide daring and initiative and an intimacy in service difficult for central government".

57. We think that conditions in New Zealand and New South Wales are sufficiently similar to make these conclusions helpful in considering our own problems. What has been suggested above is exactly in line with the consolidations brought about or proposed by the New South Wales Authority.

58. Doubt was expressed by Mr I. R. Robinson as to whether present engineers and managers of New Zealand power boards would be capable of directing the larger organisations we have suggested. To this we think there are two answers. In the first place we doubt whether the fear is well founded. It has not proved to be so in New South Wales, where much larger concerns have been operating successfully, and the same may be said of English conditions, where the whole country is divided into only 12 Area Boards. We think that New Zealand executives would prove to be no less capable. In the second place, if Mr Robinson is right, then management must be improved and the enlargement of opportunity and the improvement in status and remuneration that our scheme would bring about can surely be relied on to produce executives of the required calibre.

59. Within the next five years consumption of electricity may well increase by 50 per cent and thereafter at an even greater rate and the problems of today will be increased and intensified; they will challenge the skill and resources of our power board personnel. Their solution can only be achieved by the early adoption of bold and progressive measures of improvement.

60. In the business world it has been found that in very many avenues large corporations are more successful than small ones. Although it is desirable to retain the personal element now permeating our power board structure, it is essential to remember that distribution of electricity is primarily a business and that consumers are far more interested in the charges they have to pay than in any other aspect of this business.

## Compensation to Municipalities

61. Adoption of this scheme would involve the taking over by the appropriate power boards of the reticulation now belonging to supplying municipalities. Divergent views were expressed by power board representatives as to whether compensation should be paid for this reticulation and if so on what basis it should be calculated. It was pointed out that in England the only compensation paid to local authorities in similar cases was for severance of functions and had no relation to the value of the actual structures. The maximum payment was up to a single lump-sum payment of £1 per consumer. It was argued that the assets had been created by the consumers in the municipality and that such consumers would continue to be consumers under the power board, that as such they would have again to contribute through the power board's tariff to the cost of compensation and that the change should be regarded, not as a purchase, but as a mere change of trustees. This was the view taken in New South Wales where the position is that on the constitution of a county council the effect of the change so far as finances are concerned is that the assets and liabilities of the electricity Works Trading Funds of the constituent councils are transferred on the date named in the proclamation to the county council and such transfer is not accompanied by any payment or compensation. The change might best be regarded as a change in trusteeship. It was also pointed out that on a merger or amalgamation of power boards no compensation could be paid and it was said that to treat the municipalities more favourably would be unfair and inequitable. On the other hand it was contended for the municipalities that there should be compensation on a fair and equitable basis based on the value of the assets acquired and making due allowance for the financial disturbance caused to the local body by losing its undertaking. It also appeared that in similar transactions in the past power boards had in most cases paid to municipalities the value of the assets taken over, including reticulation. It is true that in some cases, such as the three cities of Wellington, Christchurch, and Dunedin, the city consumers would probably be so large a proportion of the consumers in the new body that the payment of compensation would not be any great benefit to them, but in the case of the smaller bodies it would be a real hardship for the municipalities to be denied all compensation for the loss of their electrical undertakings. We have endeavoured to estimate what the probable result on the new power boards would be if compensation were paid to the municipalities on the basis of the value of their electrical assets, but it has been difficult to do more than guess at what the figure would be in any particular case. It is however clear that in some cases at least the amount would be so large as to impose a heavy burden on the new power boards with considerable effect on tariffs thus tending to defeat the desired result of reducing, if not eliminating, the wide disparity in tariffs.

62. We have come to the conclusion that the municipalities should be treated as if they were power boards so that all the assets and liabilities of their electrical undertakings would pass to the new power boards without consideration, but that there should be a transitional annual payment for a limited period to cover principally loss due to administrative disturbance, and in a minor degree to soften or cushion the impact of the proposed change. We found it impossible to devise a scheme which would be flexible enough to do even rough justice to each municipality in view

of the very diverse policies of the municipalities, which ranged from substantial exploitation to extreme conservativeness, in utilising electrical profits and we concluded that it would be best to adopt some simple universal principle that could be easily applied and that could be so graded as to bear least hardly on the smaller bodies. The one that commended itself to us was a graded payment of so much per consumer per annum for a period of 10 years. The rate of payment we suggest is as follows:

For the first 1,000 consumers £2 per consumer per annum.

For the next 4,000 consumers £1 10s. per consumer per annum.

For the next 5,000 consumers £1 per consumer per annum.

For all consumers over 10,000 15s. per consumer per annum.

We realise that for some municipalities this scheme will mean an increased benefit beyond what they have been enjoying from the use of electrical profits, while for others it will be very much less, but we point out that it is much more generous than the British scheme and still more so than the New South Wales one. In fact we know of no instance - other than our own cases in the past - where such liberal treatment has been accorded to territorial authorities.

63. We consider that the same principle cannot be applied to hydro-electric generating stations owned and operated by electrical supply authorities. If, as we have suggested, these stations are to become national assets, it would seem reasonable that the State should pay their value to the authority whether power board or territorial authority. There is a real distinction between a transfer from one local authority to another local authority in which the district of the first local authority is to be included, and a transfer from that local authority to the central Government for the benefit of the Dominion as a whole.

64. We think it should be a condition of the take-over that the power boards should undertake to find suitable employment for any member of the staff of any undertaking taken over. Consideration should be given to allowing small municipalities time to adjust staff rearrangements. The power boards would, of course, take over any outstanding loan liabilities of the transferors' electrical undertaking, together with any sinking funds existing in respect of those loans. Where municipal supply authorities own and operate gasworks these should, if the municipality so desires, be taken over by the power boards as if they were part of the electrical undertakings, but without any payment in respect of gas consumers. With transactions carried through on this basis and with cooperation on both sides the municipalities should not suffer any real hardship, especially if it is recognised that the practice of diverting profits or obtaining other collateral benefits from electrical distribution must now come to an end. Legislation will be required to implement the scheme and it should contain the usual ancillary provisions including clauses preventing a municipality, pending completion of the vesting, from making any contracts or commitments in connection with its supply undertaking except in the usual and regular course of business, and also providing for the settlement of all disputes by arbitration.

### **Polls of Ratepayers**

65. It was suggested by some municipalities that no take-over such as is now proposed should be made unless sanctioned by a poll of the ratepayers of the municipality, and it was said that no evidence had come from any municipality that its consumers desired any change. As we have said, the municipal distributors enjoy a local advantage as compared with the rest of the Dominion and it could not be expected that they would be anxious to lose it, but we trust that they will not fail to respond to a call to make some small sacrifice for the benefit of the Dominion as a whole. We are definitely of opinion that this is not a case for submission to a poll of ratepayers. We hope that Mayors and Councillors will take a reasonable and broadminded view and urge their citizens to acquiesce cheerfully in a movement for the real progress of electrical supply as a whole. We have referred to territorial supply authorities as municipalities but there are, in addition to those properly so called, four county councils, and what has been said about municipalities would apply to them. So far as concerns the two companies engaged in distributing electricity they would of course be entitled to compensation for the value of their assets as ascertained under the provisions of the Public Works Act.

### **Suggested Supervisory Body**

66. Even with the completion of the best practicable regrouping of areas it is inevitable that very considerable variations in the potential of power boards will remain, and to minimise these we suggest that a scheme should be worked out whereby the boards most favourably situated might assist the less fortunate ones. We think a body should be set up somewhat on the lines suggested by the Municipal Electricity Supply Authorities Association to be called (say) the Electricity Distribution Commission with the following functions:

- (a) To take over the activities and powers of the Rural Electrical Reticulation Council.
- (b) To determine, in accordance with the principles herein set out, what amalgamations or other alterations in the areas and constitutions of supply authorities should be made.
- (c) To regulate and control retail tariffs and adjudicate on any complaint made by a consumer against the tariff or charges of a power board.
- (d) To make recommendations to the Local Authorities Loans Board on any loan proposed to be raised by a power board. This body would be so familiar with the principles and practice of power boards that it would be of great assistance both to the borrowing power board and the authorising loans board in deciding such questions as the necessity or wisdom of the proposed project and as to whether or to what extent it should be financed from revenue.
- (e) To collect and control a fund for the gradual diminution of the differences in financial capacity between power boards so as to enable tariffs to be assimilated as nearly as practicable. This body would decide what boards should contribute to this fund and on what basis and also to which boards assistance should be given and to what extent. Each year an assessment

and distribution list would be prepared and circulated to the supply authorities and each authority would have a right of appeal to the Court of Appeal against the amount proposed to be paid by or to it, the decision of the Court to be final. This would follow the procedure already operating in the case of the Licensing Control Commission. On any one appeal the Court should have power to consider consequentially all other items in the list but would not be enabled to alter any item other than the one appealed against without giving the authorities concerned an opportunity to be heard. The new body would normally concern itself first with the amalgamation or other alteration of supply districts and would not normally attempt to operate an equalisation fund until these amalgamations and alterations had been completed and consolidated so that the true position of the rearranged districts could be clearly visible.

(f) Any similar or related functions that may be found to be expedient.

67. The personnel of this new body might well be similar to that of the Licensing Control Commission, say an independent Chairman and two members representing respectively the electrical supply authorities and the New Zealand Electricity Department. It may be thought that some limit should be imposed on the powers of this body but our view is that such a body would be likely to move too cautiously rather than too boldly and that it might well be left with complete responsibility, and that even the statutory restrictions now operating in respect of rural reticulation should be removed.

68. At the outset of our sittings there was strong opposition by power boards to any interference with their present powers and status, but the Electric Power Boards Association later agreed that some amalgamation of power boards might be necessary. Some support for an appeal authority was expressed by witnesses representing power boards. We think that if our proposals are adopted it will be found in practice that the "interference" is more apparent than real and that appeals will not be either numerous or significant. We think the enlarged areas and increased responsibilities of supply districts will help to attract citizens of capacity to the membership of power boards and that the scheme as a whole will strengthen and improve the distribution organisation and contribute to harmony and confidence between the boards and their consumers.

69. We think that the Southland Electric Power Supply and the Rotorua Electric Supply should be treated as power boards and, as such, be subject to the decisions of the new body. We do not think the New Zealand Electricity Department should be required to contribute to or entitled to benefit from the assessment and contribution scheme outlined in paragraph 66 (e) above.

70. It is, of course, implicit in this proposal that the Government would not use its power to control the price of bulk power in such a way as to influence the framework of retail tariffs or the relative charges to different classes of consumers.

## **State Supply to Retail Consumers**

71. We think the New Zealand Electricity Department should supply power direct to retail consumers only in special cases where the national interest is concerned.

## **Methods of Financing**

72. Little need be said about the methods available to and used by distributing authorities for the financing of their construction programmes. The main methods used are the raising of loans and the employment of surplus revenue. To a limited extent, in rural areas, capital contributions from prospective consumers are also used. It is generally recognised that financing by loans makes the works much more expensive and that the loans themselves must ultimately be paid off out of revenue. On the other hand extensive use of revenue for capital works does mean higher charges for present-day consumers. The following table shows to what extent the cost per £100 of capital works is increased by the use of loan moneys, interest being calculated at the rate of 5 per cent per annum.

Repayment Term	Total Interest	Total Sinking Fund	Total Loan Charges
10 years ..	..	£ 50 0 0	£ 83 5 10
15 years ..	..	75 0 0	74 18 9
20 years ..	..	100 0 0	67 3 4
25 years ..	..	125 0 0	60 0 0
			133 5 10
			149 18 9
			167 3 4
			185 0 0

Especially in the case of supply authorities which have a regular annual programme of capital works is it desirable that this should be financed out of revenue instead of by loan. In newly established undertakings loans are inevitable, in the older undertakings some proper balance between loan finance and use of revenue must be maintained. No fixed rules can be laid down and in the case of each authority its particular circumstances would have to be considered. It is thought that the suggested supervisory body would be able materially to assist in determining in each case what is a proper balance, having regard to local circumstances, to the availability of loan finance and to the effect on tariffs.

## **Retail Tariffs**

73. It has been impossible to discuss the efficiency of supply authorities without making some reference to tariffs. As has been said, each authority has been a law unto itself in formulating tariffs and these have varied very widely both in content and complexity. A table has been compiled by the New Zealand Electricity Department which analyses the tariffs of all authorities under the headings of domestic supply, commercial supply, industrial supply, and miscellaneous supply. This is included as Table I in Appendix I. Tables II and III in the same Appendix show more particulars of the variations in tariffs, including such matters as minimum charge, fixed or basic charge and discount. The evidence given showed that most authorities had, in recent years,

reduced the number of items or steps in their tariffs and had endeavoured to simplify their system of charging. In 1928 there were 887 rates and 1,678 steps but by 1958 these were reduced to 534 rates and 983 steps.

74. Table I shows how differently the various classes of consumers have been treated in the various districts. In nearly two-thirds the charge for domestic supply is less than the actual cost per unit of all units sold. If, as was said in the well known English report known as the Herbert Report, "the first principle of tariff making should be to secure that charges reflect the cost of supply" this is unduly favourable treatment for the domestic consumer. It is also treatment which is going to be very difficult to change. On the other hand it may be that the Herbert Committee was right when it said, in paragraph 395, "We think that most of the complaints we have heard about tariffs would be avoided if it were demonstrably clear to all consumers that the charges made were related as closely as practicable to the costs of supply". We take the view that, if there were an independent authority to whom dissatisfied consumers could appeal and in whose capacity and impartiality they could have confidence, any feelings of dissatisfaction or resentment over charges would quickly disappear, which would be an inestimable boon to the supply authorities.

75. Although many authorities stated to us that the tariffs for various types of consumers were determined in some measure by approximate estimates of the costs of the particular type of supply, none had available the figures showing precisely the relation between charges and costs for the different categories. At our request the General Manager of the Wellington City Council Electricity Department produced data derived from three substations which each supplied predominantly one of the main classes of load, that is, domestic, commercial, and industrial. The information derived from this data was most interesting and gave average costs of 1·036, 2·0, and 1·81d. per unit respectively. Unfortunately, as the general manager pointed out, the maximum demands of the individual substations do not necessarily coincide in time with the chargeable maximum demand for the whole system, and the figures given do not therefore represent accurately the true costs. These figures are derived from three quarterly readings in the current year and we have not the corresponding average quarterly revenue with which to compare them. We note that the average annual revenues for the year ending 31 March 1959 were 0·820, 3·323, and 1·434d. per unit respectively.

76. Mr I. R. Robinson gave evidence that in many parts of New Zealand the domestic consumer is being supplied at a loss and quoted in particular an investigation into an area comprising 273 State houses in the Hutt Valley Electric Power Board district. This showed the cost of supply at £8,320 with a revenue of £5,264, that is, a loss of £3,056 for the year or £11·2 on each domestic consumer for the year. Mr Robinson adds a note that if water-heater load had been controlled the loss would have been £2,056 instead of £3,056.

77. As already mentioned, definite figures relating costs of different classes of supply to charges were not produced by the supply authorities and apparently were not available. It is, therefore, not possible to judge how far the case quoted above is typical, but it does appear that in many cases the domestic consumer is being subsidised by the commercial and industrial consumer.

78. We think the basis of charge should be the cost of supply, and if the supply authorities have not got the necessary information as to what the costs of supply are to different classes of consumers they should undertake the research required to ascertain them. It may be that local circumstances might require some departure from that principle and a flexible policy taking into consideration all relevant factors should produce equitable and adequate tariff adjustments.

### **Constitution of Power Boards**

79. At present the general practice is for power board members to be elected on the ward system, the principal exception being the Auckland Electric Power Board which is elected on an overall franchise of its whole area. Evidence was sought as to the relative advantages of these two systems and also as to the desirability of a system of nomination either by the State or by territorial authorities. The consensus of opinion was that in general election on the ward system is the most satisfactory. We agree with this opinion and therefore do not propose that any alteration should be made to the present system. This does not imply condemnation of Auckland but, if the suggested amalgamation with Franklin should take place, the constitution of the new power board would need further consideration.

### **Legislation Required**

80. We think that as outlined above legislation is required and should be enacted—

- (i) To prevent the diversion by municipalities of electrical profits and the obtaining of other advantages such as cheap power for municipal services from electrical undertakings.
- (ii) To provide for the setting up of a supervisory body to carry out the reorganisation of supply authorities as suggested and to control retail tariffs.
- (iii) To provide ancillary machinery for implementing the recommendations in this report.

### PART III: MISCELLANEOUS ASSOCIATED MATTERS

#### The Gas Industry

81. Considerable time was inevitably devoted to consideration of the gas industry in so far as its operations were affected by the policy and in particular the tariffs of electrical supply authorities.

82. Evidence was presented by the Gas Association of New Zealand and by several gas corporations. Their chief complaints were:

- (i) That some authorities adopted discriminatory tariffs against gas users; and
- (ii) That charges for domestic consumers, particularly in relation to water heating, were unduly low and constituted unfair competition with gas supplies for similar purposes.

83. It was shown that some authorities charged lower rates for an all-electric house than for one where (for example) gas was used for cooking or water heating. It was suggested by the Electric Power Boards Association that this was not done deliberately to discourage the use of gas but it was evident that it must have that result. It was generally agreed that such discrimination was not now necessary and it was shown that the practice had been discontinued by all but three authorities. We think discrimination is undesirable and should be discontinued by the small number of authorities still adhering to it.

84. The second complaint stems from the fact that, in general, supply authorities pay for bulk power on peaks and not on units and accordingly they have been at pains to increase the sale of units off-peak. All authorities exercise more or less complete control of units sold for water heating so as to ensure that these units are used off-peak, this being known as the shippable load. The gas industry suggested that the State should discontinue the system of charging on peaks and should insist, as one of the terms of its contract for supply of bulk power, that authorities should not sell any units at less than a minimum price, representing the actual cost to the authority of the units sold; or at more than a fixed maximum price to prevent other consumers, such as industrial or commercial, being compelled to subsidise the low charges to domestic consumers.

85. There are serious objections to both these proposals. As we have already said, we think that the system of charging on peaks is sound and the most suitable for present conditions. Within limits, the sale of off-peak units is to be encouraged. It is good business not only for the supply authorities but for the State. Obviously a well spread load is preferable to one with alternating high and low demands. We think, as we have already said, that the State should not attempt to interfere with the framework of retail tariffs and if any correction of tariffs is desirable it should be done by the supervisory authority we have suggested. It is obvious also that a general policy for the Dominion cannot be framed on considerations which apply only to the relatively small number of areas in which privately owned gasworks exist.

86. Admittedly the competition of electricity has made the position of the gas industry difficult. We feel that dealing only with the distribution of electricity we are not able to make any recommendation except

that electrical tariffs should not be so framed as to discourage freedom of choice by the consumer as between the use of gas and electricity.

### Trading Activities of Supply Authorities

87. Submissions were made by the National Council of New Zealand Radio-Television and Electrical Traders' Associations and others that supply authorities should discontinue retail trading in electrical appliances. Their chief complaints were that the authorities held a monopoly in the supply of electricity and thus enjoyed contacts with purchasers of electrical appliances which gave them an advantage over private traders; that the authorities paid no income tax so that the State was, in effect, subsidising their trading activities; that the authorities could borrow moneys at lower rates than private traders and could therefore offer more attractive terms to their customers on hire-purchase contracts; that the authorities had a statutory charge on the consumer's land for moneys owing to them; that in times of power shortages the authorities were entrusted with the right to decide who should be allowed to install electric appliances.

88. The supply authorities, while not seriously contesting the correctness of these allegations, claimed that they were interested in seeing that their customers could obtain suitable appliances at reasonable prices and on attractive terms and their competition was valuable in securing these advantages; that the exemption from income tax did not give them any advantage over private traders as they sold at the standard retail prices; that the Electric Power Boards Act authorised them to trade in appliances; and that in earlier years many authorities found that adequate supplies of appliances were not readily available in all centres and they were virtually forced to undertake retail trading.

89. It is probably true to say that under today's conditions retail trading by supply authorities is not really necessary, either for the protection of the public or for stimulating the demand for electric power. Figures supplied by one of the largest trading authorities would seem to suggest that, both in volume and percentage of profit, retail trading was perhaps tending to recede during recent years. In 1956 this authority's trading turnover was £152,931 and its net profit was £18,176. In 1959 the turnover had fallen to £124,202 and the net profit to £12,087. On the other hand it is the undoubtedly right of supply authorities to trade in electrical appliances, and as to the State foregoing income tax on local body activities it is probable that if such income tax were charged the local authorities would see that profits were either eliminated altogether or drastically reduced. So long as the supply authorities charge standard prices and conform to accepted business practices we think we cannot recommend that they should be prohibited from trading. We may add that in the United Kingdom retail trading by Area Boards is usual and the Herbert Committee expressed its view (in paragraph 464) as follows:

"We consider that the boards should not allow the criticisms of their trade competitors to make them half-hearted in their retail trading and contracting activities. If they enter these fields at all, and we think they should, they should be as vigorous and commercially progressive as any other large retail concern."

90. Some criticism was made of advertising methods adopted by some supply authorities. Whilst not denying the authorities the right to advertise according to ordinary trade practices, we are of the opinion that such advertising should be conducted with dignity and restraint as befits a public body. Supply authorities are in a privileged position regarding taxation on trading profits and because of this we think that whilst maintaining ordinary retail prices the main object of supply authorities should be to provide a service to their consumers rather than to make profits.

91. Evidence was given that some supply authorities did give a fuller service to their consumers in the repair and replacement of installations and appliances than could be given by the electrical contractors in their particular areas. We consider that this type of service should be continued, the object being not to supplant private enterprise but to supplement it.

### **Investment of Reserve Funds**

92. Provisions common in the constituting statutes of power boards, municipalities, and county councils require full and proper depreciation of the assets of the undertaking to be provided for. The amounts arrived at for this purpose as the statutes severally provide must be credited to a depreciation fund, and the moneys so credited must be paid to the depreciation fund commissioners or to the Public Trustee as sole commissioner of the fund. In the hands of such commissioners or commissioner the moneys in the fund are required to be invested in certain specified securities, and they are reclaimable by the local authority at the discretion of the commissioners or commissioner only under exacting and cumbersome requirements. A few authorities, for example, the Auckland Electric Power Board, the Christchurch City Council (in respect of its electricity undertaking) and the Dunedin City Council, have obtained by Local Acts relief from the obligation to transfer control of their depreciation and other reserve funds to Commissioners, and their powers of investment of such reserves include power to invest in their own undertakings. We think the same provisions should be made applicable to all supply authorities, and are encouraged in that recommendation by the general provision to that effect applicable to licensing trusts and made by sections 41 and 42 of the Licensing Trusts Act 1949, and particularly section 41 (3). We think it is sound in principle that local bodies should be allowed to invest their reserve funds in the trading undertaking from which such funds were derived, thereby reducing the amount which they would otherwise have to borrow and coming in line with sound and general practice in business.

93. We think it should follow that depreciation funds, renewal funds, general and special reserve funds in the hands of commissioners should be released to supply authorities upon application. As the immediate release of these funds might, however, cause embarrassment, we suggest that they be freed over a convenient term of years when they become available.

### **Form of Accounts**

94. In attempting to compare the operations of different supply authorities it was found that many authorities charged capital expenditure against revenue and this necessarily made comparison difficult. We think

it would be better if all authorities prepared revenue accounts on the same basis, that is, by charging only items properly chargeable to revenue, and showing capital appropriations in a separate appropriation account. We suggest that consideration might be given to this suggestion with a view to prescribing a uniform system of accounts for all supply authorities.

## PART IV: SUMMARY OF MAIN CONCLUSIONS AND RECOMMENDATIONS

### A. Organisation and Efficiency of Distribution of Electricity and of Distributing Authorities

95. We have had evidence from a large number of distributing authorities and in regard to them we find—

- (i) That they are technically efficient.
- (ii) That the organisation and efficiency of the distribution of electricity can be improved as follows:
  - (a) By transferring to power boards the distribution systems now controlled by territorial authorities, together with all their assets and liabilities;
  - (b) By amalgamation and alteration of the areas of supply authorities so as to increase their efficiency and improve their status. A tentative plan of consolidation has been suggested but a final plan would have to be considered and worked out by the Electricity Distribution Commission mentioned later.

Paragraphs 34–60.

### B. Compensation to Territorial Authorities

96. We consider that some payment should be made to territorial authorities for their electrical undertakings. It should not be based on the value of their electrical assets but should be an annual payment for a period of 10 years on the following scale:

- For the first 1,000 consumers, £2 per consumer per annum:
- For the next 4,000 consumers, £1 10s. per consumer per annum:
- For the next 5,000 consumers, £1 per consumer per annum:
- For all consumers over 10,000, 15s. per consumer per annum.

Paragraphs 61–65.

### C. Financing Construction Programmes of Supply Authorities

97. (i) We find that the main sources for the supply of funds for such works are loans and revenue.

(ii) We think that a reasonable amount should be obtained from revenue for expenditure on capital works but what is a reasonable amount would have to be determined in each case by the Electricity Distribution Commission.

Paragraph 72.

### D. Disposition of Surplus Funds of Electrical Undertakings

98. Power boards cannot dispose of surplus profits outside the field of electric supply, but territorial authorities can, and many of them do so. We recommend that this power should be taken away from the territorial authorities, and provision should be made to require them to charge current prices for all power used for municipal purposes.

Paragraphs 38–39.

## **E. Tariffs**

99. (i) Electrical tariffs should be simplified and assimilated as far as practicable.

(ii) In framing tariffs the guiding principle as between different classes of consumers should be to relate charges to cost of supply to those consumers.

(iii) The Electricity Distribution Commission should have power to control and regulate tariffs and consumers should have a right of appeal to it in the event of any dispute on tariff.

Paragraphs 73–78.

## **F. Local Hydro-electric Generating Stations**

100. We consider that all local hydro-electric generating stations should, except in special cases, be taken over by the State or operated on its behalf. Where these are taken over by the State compensation should be paid on the basis of the valuation of the assets acquired.

Paragraphs 33, 63.

## **G. Electricity Distribution Commission**

101. (i) We recommend the setting up of a new body, to be called the Electricity Distribution Commission, with the following functions:

- (a) To take over the powers of the Rural Electrical Reticulation Council;
- (b) To determine what amalgamations or other alterations in the areas and constitutions of supply authorities should be made;
- (c) To regulate and control retail tariffs and settle disputes relating to charges;
- (d) To make recommendations to the Local Authorities Loans Board on all loan proposals of supply authorities;
- (e) To collect and control – subject to a right of appeal to the Court of Appeal – a fund for the gradual diminution of the differences in financial capacity between supply authorities.
- (f) Any similar or related functions.

(ii) We suggest that the Electricity Distribution Commission consist of an independent chairman with two members representing respectively the supply authorities and the New Zealand Electricity Department.

Paragraphs 66–70.

## **H. Miscellaneous Associated Matters**

102. (i) *Gas Industry*—We are not able to make any recommendation except that electrical tariffs should not be so framed as to discourage freedom of choice by consumers as between the use of gas and electricity.

Paragraphs 81–86.

(ii) *Trading Activities of Supply Authorities*—We do not recommend any restrictions on the powers of supply authorities in respect of retail trading and servicing.

Paragraphs 87–91.

(iii) *Investment of Reserves*—We recommend that supply authorities should be empowered to invest depreciation and other reserve funds in their own undertakings as well as in authorised securities.

Paragraphs 92–93.

(iv) *Form of Accounts*—We recommend that consideration be given to prescribing a uniform system of accounts for all supply authorities distinguishing between items chargeable against revenue and capital appropriations.

Paragraph 94.

## APPENDICES

### APPENDIX A

#### Persons and Organisations Who Presented Evidence at Public Hearings

		<i>Evidence Presented by</i>
<i>Electric Supply Associations</i>		
Electric Power Boards of New Zealand Inc.	.....	{Mr P. Dowse. Mr H. H. Wylie.
Electrical Supply Authorities Association	.....	Mr W. S. N. Rennie.
Municipal Electricity Supply Authorities Association	.....	Mr L. B. Hutton.
<i>Electric Power and Gas Boards</i>		
Ashburton	.....	Mr H. G. Kemp.
<i>Electric Power Boards</i>		
Auckland	.....	Mr N. M. Speer.
Banks Peninsula	.....	{Mr R. P. Thompson. Mr D. M. Paulin.
Bay of Plenty	.....	{Mr D. S. Radcliffe. Mr J. W. Rogers.
Cambridge	.....	Mr F. M. Oliver.
Central Waikato	.....	{Mr F. L. Onion. Mr G. S. Russell. Mr C. L. Walter.
Franklin	.....	Mr G. L. G. Sharp.
Hawke's Bay	.....	{Mr H. H. Wylie. Mr T. E. Kelly.
King Country	.....	{Mr H. R. Street. Mr. L. Mandeno.
Malvern	.....	{Mr W. H. Faulkner. Mr B. J. Harris.
Manawatu-Oroua	.....	{Mr E. W. Charles. Mr M. D. MacPhee.
Marlborough	.....	Mr A. H. Nees.
North Canterbury	.....	Mr A. Buckingham.
Opunake	.....	Mr R. R. Deane.
Otago	.....	{Mr R. N. Campbell. Mr E. N. Booth.
South Canterbury	.....	Mr J. M. Bishop.
South Taranaki	.....	Mr W. A. Sharp.
Springs-Ellesmere	.....	Mr V. G. Mason.
Taranaki	.....	{Mr T. R. Bourke. Mr W. M. E. Mirams.

**APPENDIX A—continued**

				<i>Evidence Presented by</i>
Tararua	....	....	....	Mr C. H. Brown.
Tauranga	....	....	....	Mr J. H. R. Chambers.
Te Awamutu	....	....	....	Mr J. A. Bell.
Thames Valley	....	....	....	Mr H. L. Boughton.
Waimea	....	....	....	{Mr N. R. Meads. Mr N. A. Andrews.
Wairarapa	....	....	....	Mr H. B. Keenan.
Wairere	....	....	....	Mr G. F. H. Moss.
Wairoa	....	....	....	Mr A. H. Heir.
Waitaki	....	....	....	{Mr N. A. Davidson. Mr J. Gerrie.
Wanganui-Rangitikei	....	....	....	{Mr G. A. Ammundsen. Mr F. H. Donaldson. Mr D. B. Hughes.

*Municipal Supply Authorities*

City Councils—

Christchurch	....	....	....	{Mr W. J. Cowles. Mr C. H. Battersby. Mr J. Denford.
Dunedin	....	....	....	{Mr S. R. Anstice. Mr T. K. S. Sidey.
Hamilton	....	....	....	{Mr W. L. Waddel. Mr H. A. Jenkins.
Invercargill	....	....	....	{Mr C. R. Hart. Mr E. A. Jeffs.
Napier	....	....	....	{Mr L. P. Ryan. Mr H. R. Matthews.
Nelson	....	....	....	Mr R. I. Blair.
Palmerston North	....	....	....	{Mr A. M. P. Hall. Mr R. C. Hands.
Timaru	....	....	....	{Mr R. D. Veitch. Mr J. A. Goodwin.
Wellington	....	....	....	{Mr A. G. P. Holloway. Mr R. H. Pritchard. Mr W. J. Arcus.

Borough Councils—

Inglewood	....	....	....	Mr R. G. Cox.
Kaiapoi	....	....	....	{Mr C. W. D. Hodgson. Mr R. G. Simpson.
Lyttelton	....	....	....	Mr J. Thompson.
Ohakune	....	....	....	Mr B. R. Winchcombe.
Raetihi	....	....	....	Mr H. Queree.

**APPENDIX A—continued**

	<i>Evidence Presented by</i>
Rangiora .....	{Mr R. Ward. Mr N. J. Hartley.
Riccarton .....	{Mr E. J. Bradshaw. Mr R. Sarjeant.
Stratford .....	Mr G. C. Grace.
Taihape .....	Mr W. J. Dellow.
Taumarunui .....	{Mr B. O. Gamby. Mr M. P. Field.
Taupo .....	{Mr J. N. Story. Mr K. G. Winton.
Tauranga .....	Mr L. Butters.
Te Aroha .....	Mr C. H. Dalton.
Thames .....	Mr S. Ensor.
Wairoa .....	Mr H. E. Collins.
Waitara .....	{Mr W. R. Yardley. Mr C. G. W. Coster. Mr C. R. Toohill.
Whakatane .....	Mr L. D. Lovelock.
Whangarei .....	Mr R. C. Major.
<b>County Councils—</b>	
Heathcote .....	Mr R. W. Morris.
<b>Town Councils—</b>	
Kaponga .....	{Mr E. L. Abbott. Mr F. T. Kirkus. Mr R. S. Dickinson.
Mangaweka .....	Mr W. H. Nelson.
<b>Government Departments</b>	
New Zealand Electricity .....	Mr A. E. Davenport.
Rotorua Electric Supply .....	{Mr R. N. Marshall. Mr J. H. Badham.
<b>Other Organisations</b>	
Auckland Gas Co. ....	Mr R. Worley.
Beath and Co. Ltd., Christchurch .....	{Mr B. F. Anderson. Mr C. D. Ogilvie.
Canterbury and Westland Retailers Association .....	Mr B. F. Anderson.
Cavendish Lime Co., Ashburton .....	Mr W. H. Gregory.
Davidson and Co. Ltd., Whangarei .....	Mr M. O. Davidson.
Dunedin Free Kindergarten Association .....	Mrs G. M. Gibson.
Federated Farmers of New Zealand (Auckland Province) .....	Mr A. R. Hughes.

**APPENDIX A—*continued***

	<i>Evidence Presented by</i>
Gas Association of New Zealand .....	Mr M. J. Kennedy.
Gisborne Gas Company .....	Mr H. D. Crisp.
Hastings Housewives Union .....	Mrs P. W. Craigie.
Hawke's Bay Electric Power Users Association .....	Mr E. J. Keating, M.P.
Marchwiel Citizens Improvement Association .....	Mr R. C. V. Parker.
New Zealand Electrical Contractors Federation .....	Mr J. R. Houston.
New Zealand Federation of Bakers and Pastrycooks .....	Mr G. R. Burrowes.
New Zealand Manufacturers Federation .....	Mr A. R. Dellow.
New Zealand Radio-Television and Electrical Traders Association (Otago Branch) Inc., and Home Appliance and Radio Trade Group of Otago Retailers Association .....	Mr B. C. F. Keane.
Otago Development Council .....	Mr W. P. Hartstonge.
Otago-Southland Manufacturers Association .....	Mr A. E. Greensmith.
Rangiora Businessman's Association .....	Mr R. I. Farrent.
Rotorua Borough Council .....	Mr A. M. Linton.
Taieri River Trust .....	Mr W. P. Hartstonge.
Temuka, Geraldine, and Waimate Borough Councils and Geraldine, Waimate, and Levels County Councils .....	Mr G. A. Harris.
Wanganui City Council .....	Mr D. F. Glenny.
Western Suburbs (Auckland) Housewives Association .....	Mr H. M. Parry.

*Private Individuals*

Mr J. P. Boyd .....	Christchurch.
Mr R. W. Hide .....	Milton.
Mr P. R. H. Maling .....	Christchurch.
Mr K. D. McIlraith .....	Ashburton.
Mr W. A. McKinnon .....	Lake Ohau.
Mr J. W. Raynor .....	Wanganui.
Mr I. R. Robinson .....	Lower Hutt.
Mr L. M. Stephenson .....	Te Awanga.

## APPENDIX A—*continued*

### COUNSEL WHO APPEARED AT THE PUBLIC HEARINGS AND THE ORGANISATIONS THAT THEY REPRESENTED

		<i>Organisations Represented</i>
Mr R. H. Bowron	.....	Rangiora Borough Council.
Mr A. M. Cousins	.....	The Electric Power Boards of New Zealand Inc., and the Ashburton, Central Waikato, Franklin, Hawke's Bay, Manawatu-Oroua, Marlborough, Opunake, Otago, South Taranaki, Springs-Ellesmere, Taranaki, Tararua, Te Awamutu, Wairere, Wairoa, and Waitaki Electric Power Boards.
Mr D. Gerard	.....	Davidson and Co., Whangarei.
Mr M. C. Gresson and Mr A. E. Hurley	.....	Timaru City Council.
Mr A. Eaton Hurley	.....	The Municipal Electricity Supply Authorities Association, the Hamilton, Napier, Nelson, and Palmerston North City Councils, the Ohakune, Raetihi, Taihape, Taupo, and Thames Borough Councils, and the Mangaweka Town Council.
Mr J. G. Leggatt	.....	Christchurch City Council. Cavendish Lime Co.
Mr B. McClelland	.....	Beath and Co.
Mr I. H. Macarthur and Mr C. K. Stone	.....	Electrical Supply Authorities Association.
Mr P. T. Mahon	.....	North Canterbury Electric Power Board.
Mr N. H. Moss	.....	The Inglewood, Stratford, Taumarunui, Waitara, Whakatane, and Whangarei Borough Councils, and the Kaponga Town Council.
Mr A. C. Perry	.....	Heathcote County Council. Lyttelton Borough Council.
Mr C. M. Roper	.....	Rangiora Businessman's Association.
Mr R. C. Saunders	.....	Mr J. P. Boyd.
Mr L. Southwick	.....	Auckland Electric Power Board. Bay of Plenty Electric Power Board.
Mr O. Stevens	.....	South Canterbury Electric Power Board.
Mr A. B. Thomson	.....	Wellington City Council.
Mr J. R. Woodward	.....	Malvern Electric Power Board.
Mr A. T. Young	.....	Gas Association of New Zealand.

## APPENDIX B

### Persons and Organisations Who Made Written Submissions but Did Not Appear at Public Hearings

Mr M. Andrews .....	.....	.....	.....	Prebbleton.
Associated Chambers of Commerce .....	.....	.....	.....	Wellington.
Mr H. M. Bouchier .....	.....	.....	.....	Rotorua.
Mr N. S. Brown .....	.....	.....	.....	South Canterbury.
Buller Electric Power Board .....	.....	.....	.....	Westport.
Cashmere High School Board of Governors .....	.....	.....	.....	Christchurch.
Central Hawke's Bay Electric Power Board .....	.....	.....	.....	Waipukurau.
Miss E. K. Clarke .....	.....	.....	.....	Napier.
Dannevirke Electric Power Board .....	.....	.....	.....	Dannevirke.
Dominion Federation of School Committees Association .....	.....	.....	.....	Dunedin.
Mr E. P. du Fresne .....	.....	.....	.....	Waipukurau.
Dunedin Chamber of Commerce .....	.....	.....	.....	Dunedin.
Mr R. C. Dunn .....	.....	.....	.....	Christchurch.
Federated Farmers of New Zealand .....	.....	.....	.....	Wellington.
Mr J. Fraser .....	.....	.....	.....	Dargaville.
Golden Bay Electric Power Board .....	.....	.....	.....	Takaka.
Gore High School Board of Governors .....	.....	.....	.....	Gore.
Mr J. W. Graham .....	.....	.....	.....	Auckland.
Grey Electric Power Board .....	.....	.....	.....	Greymouth.
Hastings Chamber of Commerce .....	.....	.....	.....	Hastings.
Hawera Gas Co. .....	.....	.....	.....	Hawera.
Hawke's Bay Education Board .....	.....	.....	.....	Napier.
Horowhenua Electric Power Board .....	.....	.....	.....	Levin.
Hughie Bros Ltd. .....	.....	.....	.....	Christchurch.
Hutt Valley Electric Power and Gas Board .....	.....	.....	.....	Lower Hutt.
Kaikoura Valley High School Board .....	.....	.....	.....	Kaikoura.
Mr A. C. Leov .....	.....	.....	.....	Blenheim.
Mr H. G. Lyttle .....	.....	.....	.....	Wellington.
Mr A. Maras .....	.....	.....	.....	Wanganui.
Mr J. Marton .....	.....	.....	.....	Wanganui.
Mr C. Morgan .....	.....	.....	.....	Wellington.
Morris Bros. Ltd .....	.....	.....	.....	Opaú.
Morton and Mabberley .....	.....	.....	.....	Kerikeri.
Mr G. V. Mullenger .....	.....	.....	.....	Auckland.
National Council of New Zealand Radio, Television, and Electrical Traders Association .....	.....	.....	.....	Wellington.

**APPENDIX B—*continued***

New Plymouth City Council .....	.....	.....	New Plymouth.
New Zealand Post Office .....	.....	.....	Wellington.
North Auckland Electric Power Board .....	.....	.....	Dargaville.
Mr M. O'Connor .....	.....	.....	Wanganui.
Otago Education Board .....	.....	.....	Dunedin.
Otago Roman Catholic Schools .....	.....	.....	Dunedin.
Mr P. A. Padbury .....	.....	.....	Kerikeri.
Mr R. Pearson .....	.....	.....	Takapuna.
Poverty Bay Electric Power Board .....	.....	.....	Gisborne.
Progressive Shopping Centre .....	.....	.....	Dunedin.
Royal New Zealand Society for the Health of Women and Children .....	.....	.....	Wellington.
Mr A. G. J. Russell .....	.....	.....	Christchurch.
Mr C. J. Tomlin .....	.....	.....	Christchurch.
Waitemata Electric Power Board .....	.....	.....	Auckland.
Mr B. Ward .....	.....	.....	Dunedin.
Mr D. J. Watson .....	.....	.....	Christchurch.
Mr R. J. Weatherburn .....	.....	.....	Kaingaroa.
Mr A. R. Webb .....	.....	.....	Dargaville.
Whakatane County Council .....	.....	.....	Whakatane.
Wilkinson's Bakery Ltd. ....	.....	.....	Kamo.
Mr R. N. White .....	.....	.....	Auckland.
Mr R. P. Williams .....	.....	.....	Masterton.
Mr G. F. Wood .....	.....	.....	Auckland.

## APPENDIX C

### The Nature and Number of Electrical Supply Authorities

At 6 August 1959 there were 83 electrical supply authorities actively functioning in New Zealand classified as follows:

Electric power and gas boards	.....	.....	2
Electric power boards	.....	.....	42
City councils	.....	.....	10
Borough councils	.....	.....	19
Town councils	.....	.....	2
County councils	.....	.....	4
Companies	.....	.....	2
Government retail authorities	.....	.....	2

These may be further classified into 23 categories according to—

(a) The source of power supply which may be—

- (1) State supply (New Zealand Electricity Department);
- (2) State supply combined with local generation;
- (3) Local generation supplemented by State supply;
- (4) Local generation;

and

(b) Whether power is sold in bulk to included municipal electricity supply authorities as well as retail.

#### *Electric Power Boards<sup>(1)</sup>*

(a) 22 State supply, all power sold retail.

Ashburton	Hutt Valley
Auckland	Malvern
Banks Peninsula	Otago
Bay of Islands*	Poverty Bay*
Cambridge	Springs-Ellesmere
Central Hawke's Bay	Tararua
Central Waikato	Tauranga
Dannevirke	Te Awamutu
Franklin	Waitaki
Grey	Waitemata
Horowhenua	Waitomo.

(b) 10 State supply, power sold retail and in bulk to included municipal electricity supply authorities.

Bay of Plenty (bulk to Whakatane).

Hawke's Bay (bulk to Napier).

King Country (bulk to Taumarunui).

Manawatu-Oroua (bulk to Palmerston North).

North Auckland (bulk to Whangarei).

North Canterbury (bulk to Rangiora and Kaiapoi).

South Canterbury (bulk to Timaru).

Thames Valley (bulk to Te Aroha and Thames).

Wairoa (bulk to Wairoa).

Wanganui-Rangitikei (bulk to Mangaweka and Taihape).

## **APPENDIX C—continued**

- (c) 6 State supply combined with local generation, all power sold retail.

Buller	Opunake
Golden Bay	South Taranaki
Marlborough	Wairarapa.

(d) 2 State supply combined with local generation, power sold retail and in bulk to included municipal electricity supply authorities.

Taranaki (bulk to Kaponga, Inglewood, Stratford, Waitara).  
 Waimea (bulk to Nelson).

(e) 4 Local generation supplemented by State supply, at special rates per kilowatt-hour, all power sold retail.

Otago Central	Wairere
Teviot	Westland.

### *City Councils<sup>(2)</sup>*

- (f) 3 State supply, all power sold retail.
    - Wellington
    - Christchurch
    - Hamilton.
  - (g) 4 State supply purchased through a power board, all power sold retail.
    - Napier (bulk from Hawke's Bay).
    - Nelson (bulk from Waimea).
    - Palmerston North (bulk from Manawatu-Oroua).
    - Timaru (bulk from South Canterbury).
  - (h) 1 State supply purchased through a Government retail distributing authority, all power sold retail.
    - Invercargill (bulk from Southland).
  - (i) 1 State supply combined with local generation, all power sold retail.
    - New Plymouth.
  - (j) 1 Local generation supplemented by State supply, all power sold retail.
    - Dunedin.

### *Borough Councils(3)*

- (k) 2 State supply, all power sold retail.  
Lyttelton Riccarton.

(l) 11 State supply purchased through a power board, all power sold retail.

  - Inglewood (bulk from Taranaki).
  - Kaiapoi (bulk from North Canterbury).
  - Rangiora (bulk from North Canterbury).
  - Stratford (bulk from Taranaki).
  - Taihape (bulk from Wanganui).
  - Te Aroha (bulk from Thames Valley).
  - Thames (bulk from Thames Valley).

## **APPENDIX C—continued**

- Wairoa (bulk from Wairoa).
- Waitara (bulk from Taranaki).
- Whakatane (bulk from Bay of Plenty).
- Whangarei (bulk from North Auckland).
- (m) 1 State supply purchased through a Government retail distributing authority, all power sold retail.  
Bluff (bulk from Southland).
- (n) 1 State supply combined with local generation, all power sold retail.  
Ohakune.
- (o) 1 State supply purchased through a power board, combined with local generation, all power sold retail.  
Taumarunui (bulk from King Country).
- (p) 3 Local generation supplemented by State supply, all power sold retail.  
Raetihi (2-part tariff).  
Taupo (special rates per kilowatt-hour).  
Tauranga (special rates per kilowatt-hour).

### *Town Councils*

- (q) 2 State supply purchased through a power board, all power sold retail.  
Kaponga (bulk from Taranaki).  
Mangaweka (bulk from Wanganui-Rangitikei).

### *County Councils*

- (r) 2 State supply, all power sold retail.  
Heathcote Mackenzie.
- (s) 1 Local generation supplemented by State supply at special rates per kilowatt-hour, all power sold retail.  
Murchison.
- (t) 1 Local generation, all power sold retail.  
Kaikoura (arrangements have been made for State supply through a power board).

### *Companies*

- (u) 1 Local generation supplemented by State supply, all power sold retail.  
Westland Power.
- (v) 1 Local generation, all power sold retail.  
Amethyst Power.

### *Government Retail Authorities*

- (w) 1 State supply, all power sold retail.  
Rotorua Electric Supply.
- (x) 1 State supply, power sold in bulk as well as retail.  
Southland Electric Supply (bulk to Invercargill city and Bluff borough).

## **APPENDIX C—*continued***

### *Footnotes—*

- (1) Two electric power boards – Ashburton, Hutt Valley – are also gas boards, and distribute and sell gas retail.
  - (2) Six city councils – Dunedin, Hamilton, Invercargill, Nelson, Palmerston North, Timaru – also operate gas undertakings, and distribute and sell gas retail.
  - (3) Two borough councils – Lyttelton, Rangiora – also operate gas undertakings, and distribute and sell gas retail.
- \*Bay of Islands and Poverty Bay own and operate generating plants which provide a negligible proportion of their power requirements.

**APPENDIX D**  
**Areas and Populations**

Population at 1 April 1958 for Territorial Districts Within Power Districts

Electrical Supply Authority	Included Areas Reticulated by Supply Authorities						Boroughs Supplied With Power in Bulk for Resale	
	County	Part County		Borough, City, or Independent Town District		Part Borough, City, or Independent Town District		
		Name	Population	Name	Population	Name		
(1)	(2)	(3)	(4)	(5)				
1. Bay of Islands Electric Power Board	Manganui .. 7,850	Kawakawa .. 790						
	Bay of Islands .. 12,720	Kaikohe .. 2,250						
	Whangaroa .. 2,530	Kaitaia .. 2,500						
	Hokianga .. 7,330							
2. North Auckland Electric Power Board	Whangarei .. 15,050	Dargaville .. 3,480	Whangarei .. 2,000	Whangarei				
	Hobson .. 6,920	Hikurangi .. 1,050						
	Otamatea .. 7,110	Kamo .. 1,120						
3. Whangarei borough .. ..								
4. Waitemata Electric Power Board ..	Waitemata .. 37,200	Helensville .. 1,180	Whangarei .. 13,750	Whangarei				
	Rodney .. 6,630	Warkworth .. 960						
		Britenhead .. 6,150						
		Northcote .. 3,320						
		Glen Eden .. 4,580						
		Henderson .. 2,910						
		Devonport .. 11,650						
		East Coast bays .. 7,940						
		New Lynn .. 8,170						
		Takapuna .. 19,700						
5. Auckland Electric Power Board ..	Manukau .. 23,500	Auckland .. 139,900						
	Waikite Island .. 2,190 (not county)	Newmarket .. 2,020						
		Mt. Eden .. 18,600						
		Mt. Roskill .. 27,600						
		Mt. Albert .. 25,700						
		Mt. Wellington .. 13,350						
		One Tree Hill .. 13,050						
		Ellerslie .. 4,720						
		Howick .. 4,390						
		Onehunga .. 16,700						
		Otahuhu .. 8,790						
		Manurewa .. 5,500						
		Papatoetoe .. 12,500						
		Papakura .. 5,980						

**APPENDIX D—continued**

**Areas and Populations—continued**

Population at 1 April 1958 for Territorial Districts Within Power Districts

Electrical Supply Authority	Included Areas Reticulated by Supply Authorities						Boroughs Supplied With Power in Bulk for Resale	
	County	Part County		Borough, City, or Independent Town District		Part Borough, City, or Independent Town District		
		Name	Population	Name	Population			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
6. Franklin Electric Power Board ..	Franklin ..	18,640	Raglan ..	2,910	Pukekohe ..	5,060		
			Waikato ..	16,580	Waiuku ..	1,510		
			Waipa ..	8,370	Tuakau ..	1,390		
			Raglan ..	6,960	Hunly ..	4,360	Hamilton ..	
7. Central Waikato Electric Power Board ..	..	..	Ngatūwhāhia ..	..	..	2,950	16,000	
8. Hamilton city ..	..	..	..	..	..	..		
9. Rotorua Electric Supply ..	..	16,800	Taupo ..	730	Rotorua ..	13,150	Hamilton ..	
10. Taupo borough ..	..	..	Matamata ..	250	..	..	22,200	
11. Cambridge Electric Power Board ..	..	..	Taupo ..	2,040	Taupo ..	..	3,780	
			Waikato ..	1,940	Cambridge ..	..	4,850	
			Matamata ..	670	..	..		
			Waipa ..	1,230	..	..		
12. Te Awamutu Electric Power Board ..	..	..	Waipa ..	9,550	Te Awamutu ..	..	4,910	
			Raglan ..	530	..	..		
			Otorohanga ..	4,040	..	..		
13. Waitomo Electric Power Board ..	..	..	Otorohanga ..	..	Te Kuiti ..	..	4,030	
			Waipa ..	140	Otorohanga ..	..	2,010	
			Waitomo ..	5,340	..	..		
			Tapo ..	6,880	..	..		
14. Waireire Electric Power Board ..	..	..	Waitomo ..	4,210	..	..		
			Cilton ..	460	Obura ..	..	600	
15. King Country Electric Power Board ..	..	..	Taurarunui ..	10,140	Mananui ..	..	920	
			Tapo ..	1,770	..	..		

16. Taumarunui borough .. ..		Taumarunui .. 3,400	
17. Thames Valley Electric Power Board .. ..	Hauaki Plains .. 5,900 Ohinemuri .. 4,480 Thames .. 3,350 Piako .. 12,400 Coromandel .. 2,860	Matamata .. 20,180 Waikato .. 280  Morinsville .. 4,000 Aeroa .. 2,920 Matamata .. 2,670 Pataruru .. 3,120 Walhi .. 3,090  Thames .. 5,140	Thames .. Te Aroha .. Mt. Maunganui .. 4,000 Te Puke .. 2,090
18. Thames borough .. ..		Te Aroha .. 2,920	Te Aroha ..
19. Te Aroha borough .. ..		Mt. Maunganui .. 4,000	.. 2,440
20. Tauranga Electric Power Board .. ..	Tauranga .. 20,800	Tauranga .. 2,090	Tauranga ..
21. Tauranga borough .. ..		Whakatane .. 7,660	Whakatane ..
22. Bay of Plenty Electric Power Board .. ..	Opoitiki .. 5,280 Whakatane .. 16,250	Opoitiki .. 2,500 Murupara .. 940 Kawerau .. 3,190	..
23. Whakatane borough .. ..		Whakatane .. 6,080	..
24. Poverty Bay Electric Power Board .. ..	Cook .. 9,310 Walkohu .. 3,820 Uawa .. 1,730 Waiapu .. 6,280	Gisborne .. 20,500	..
25. Wairoa Electric Power Board .. ..	Wairoa .. 8,080	Wairoa .. 3,960	Wairoa ..
26. Wairoa borough .. ..		Hastings .. 21,000 Tardale .. 3,780 Havelock North .. 2,810	Napier .. 4,800
27. Hawke's Bay Electric Power Board .. ..	Hawke's Bay .. 19,900	Napier .. 17,100	Napier ..
28. Napier City .. ..		Waipukurau .. 3,010 Waipawa .. 1,680	..
29. Central Hawke's Bay Electric Power Board .. ..	Waipukurau .. 1,320 Waipawa .. 4,080 Patangata .. 3,660	Waipukurau .. 3,010 Waipawa .. 1,680	..
30. Dannevirke Electric Power Board .. ..	Woodville .. 1,860 Dannevirke .. 4,900	Dannevirke .. 5,540 Woodville .. 1,470	..
31. New Plymouth city .. ..		Taranaki .. 9,470 Inglewood .. 1,000	New Plymouth .. 24,900
32. Taranaki Electric Power Board .. ..		Clifton .. 2,390 Eltham .. 2,000 Inglewood .. 2,260 Stratford .. 6,160	Eltham .. 2,260
33. Inglewood borough .. ..		Inglewood .. 1,750	Inglewood ..
34. Stratford borough .. ..		Stratford .. 4,890	Stratford ..

**APPENDIX D—continued**  
**Areas and Populations—continued**

Electrical Supply Authority	Population at 1 April 1958 for Territorial Districts Within Power Districts							
	Included Areas Reticulated by Supply Authorities				Boroughs Supplied With Power in Bulk for Resale			
	County	Population	Part County	Population	Borough, City, or Independent Town District	Population	Part Borough, City, or Independent Town District	Population
Name	Population	Name	Population	Name	Population	Name	Population	(5)
(1)	(2)	(3)	(4)	(3)	(4)	(5)	(4)	(5)
35. Waitara borough ..	..	Eltham	1,660	Waitara	..	3,880		
36. Kaponga Town Council ..	..	Stratford	180					
37. Opunake Electric Power Board ..	..	Taranaki	230					
38. South Taranaki Electric Power Board ..	..	Hawera	2,170	Hawera	..	7,070		
39. Waitara ..	..	Waitmata West	3,060	Maiaia	..	750		
39. Patea borough ..	..	Patea	..	Patea	..	1,960		
40. Ohakune borough ..	..			Waimarino	1,220	Ohakune	..	1,670
41. Raetihi borough ..	..			Waimarino	1,140	Raetihi	..	1,210
42. Wanganui-Rangitikei Electric Power Board ..	..	Wanganui	3,650	Marton	..	4,100		
		Rangitikei	12,950	Waerley	..	890		
		Waitara	3,360	Wanganui	1,580	Wanganui	..	30,800
				Hunterville	..	600		
43. Taihape borough ..	..			Taihape	..	2,530		
44. Mangaweka Town Council ..	..			Mangaweka	..	340		
45. Manawatu-Oroua Electric Power Board ..	..	Oroua	4,820	Filding	..	7,220	Palmerston North	940
		Robargina	1,310	Kiwieta	..			
		Kairanga	6,080	Manawatu	6,280			
46. Palmerston North city ..	..						Palmerston North	36,660
47. Horowhenua Electric Power Board ..	..	Horowhenua	9,610	Hutt	6,100	Foxton	..	2,610
				Manawatu	1,440	Lewin	..	7,100
						Sharon	..	1,240
						Oraki	..	2,820

48. Tararua Electric Power Board ..	Eketahuna ..	1,950	Pahiatua ..	2,400
	Pahiatua ..	2,880	Eketahuna ..	2,780
	Mauricerville ..	550		
	Akitio ..	1,190		
49. Wairarapa Electric Power Board ..	Masterton ..	4,280	Masterton ..	13,500
	Featherston ..	3,840	Carterton ..	2,700
	Wairarapa South ..	3,130	Greytown ..	1,440
			Featherston ..	1,280
			Martinborough ..	1,270
50. Hutt Valley Electric Power and Gas Board ..	Makara ..	11,850	Lower Hutt ..	51,900
	Hutt ..	16,700	Upper Hutt ..	14,100
			Petone ..	10,500
			Eastbourne ..	2,730
			Tawa Flat ..	4,610
				Wellington ..
51. Wellington city ..	Makara ..	350	Blenheim ..	9,720
52. Marlborough Electric Power Board ..	Kaikoura ..	390	Pitton ..	2,180
53. Nelson city ..	Marlborough ..	9,560		Nelson ..
54. Waimea Electric Power Board ..	Awatea ..	1,780		15,700
55. Golden Bay Electric Power Board ..	Waimea ..	14,000	Motueka ..	2,930
56. Buller Electric Power Board ..	Golden Bay ..	4,040	Richmond ..	2,780
57. Murchison County ..	Buller ..	..		Nelson ..
58. Grey Electric Power Board ..	Murchison ..	4,580	Westport ..	5,630
	Grey ..	..		
	Grey ..	4,980	Inangahua ..	3,180
			Westland ..	120
			Buller ..	80
			Westland ..	500
59. Amethyst Power Ltd. ..	Westland ..	..	Hokitika ..	3,060
60. Kanieri Electric Ltd. ..	Westland ..	..	Ross ..	560
61. Westland Power Ltd. ..	Westland ..	2,860	Kumara ..	520
62. North Canterbury Electric Power Board ..	Waimaii ..	..		Kaiapoi ..
	Kaiapoi ..	3,770		
	Eyre ..	2,220		
	Cheviot ..	1,620		
	Amuri ..	1,530		
	Waipara ..	3,060		
	Oxford ..	2,970		
	Ashley ..	1,660		
		690		
63. Rangiora borough ..	..	..		Rangiora ..
				3,320

**APPENDIX D—*continued***  
**Areas and Populations—*continued***

Electrical Supply Authority	Population at 1 April 1958 for Territorial Districts Within Power Districts					
	Included Areas Reticulated by Supply Authorities			Boroughs Supplied With Power in Bulk for Resale		
	County	Part County	Borough, City, or Independent Town District	Part Borough, City, or Independent Town District	Name	Population
	Name	Population	Name	Population	Name	(5)
64. Kaikoura county	..	..	Kaikoura	2,270	Kaiapoi	..
65. Kaiapoi borough	..	..	Malvern	2,920		2,710
66. Malvern Electric Power Board	..	Tawera Selwyn	750 1,690	Halswell 2,910 2,470 15,650	Leeston	..
67. Springs-Ellesmere Electric Power Board	..	Ellesmere Power Springs Papatau	..	.. .. ..	Riccarton	..
68. Riccarton borough	..	..	Waimairi Heathcote Halswell	29,300 1,370 1,470	Christchurch	..
69. Christchurch city	..	..			..	147,800
70. Lyttelton borough	..	..	Heathcote	4,150	Lyttelton	..
71. Heathcote county	..	..				3,350
72. Banks Peninsula Electric Power Board	..	Akaroa Waiwera Mt. Herbert	1,980 930 620		Lyttelton	..
73. Ashburton Electric Power and Gas Board	..	Ashburton	11,850	Geraldine	..	260
74. South Canterbury Electric Power Board	..	Levels ..	5,600	Geraldine Mackenzie Wainate	..	..
				5,400 2,620 5,930	Wainate Geraldine Temuka	..
					.. .. ..	Timaru
						600
						Timaru

75. Timaru city .. ..	.. ..	Mackenzie ..	610	Oamaru ..	..	Timaru .. 23,400
76. Mackenzie county .. ..	.. ..	Wainate ..	480	Hampden ..	..	..
77. Waitaki Electric Power Board ..	Waitaki ..	Waikouaiti ..	3,710	Palmerston ..	..	10,750
78. Otago Electric Power Board ..	Wallermo ..	Clutha ..	5,220	Waikouaiti ..	..	320
78. Otago Electric Power Board ..	Bruce ..	Tuapeka ..	1,330	Balclutha ..	..	870
		Maniototo ..	2,490	Kaitangata ..	..	690
		Taiieri ..	890	Lawrence ..	..	3,600
		Naseby ..	..	Naseby ..	..	1,300
		Milton ..	..	Milton ..	..	590
			..	Dunedin ..	..	1,190
79. Dunedin city .. ..	Peninsula ..	Taiieri ..	6,780	St. Kilda ..	..	1,950
		Waikouaiti ..	..	West Harbour ..	..	72,100
			3,780	Pt. Chalmers ..	..	6,900
			..	Green Island ..	..	2,190
			..	Mosgiel ..	..	3,040
			..		..	4,860
			..		..	4,750
80. Teviot Electric Power Board ..	Vincent ..	Tuapeka ..	2,350	Roxburgh ..	..	840
81. Otago Central Electric Power Board ..	..	Maniototo ..	..	Alexandria ..	..	2,110
		Lake ..	310	Arrowtown ..	..	190
			..	Cromwell ..	..	910
			..	Queenstown ..	..	1,390
			..	Gore ..	..	6,910
			..	Mataura ..	..	1,350
			..	Tapauui ..	..	450
			..	Winton ..	..	1,380
			..	Riverton ..	..	1,200
			..	Wyndham ..	..	670
			..	Lumsden ..	..	630
			..	Nightcaps ..	..	660
			..	Otatau ..	..	830
			..	Bluff ..	..	3,160
83. Invercargill city .. ..	.. ..	.. ..	.. ..	Invercargill ..	..	2,620
84. Bluff borough .. ..	.. ..	.. ..	.. ..	Invercargill ..	..	30,180

## APPENDIX E

### A Review of the Rural Electrical Reticulation Council and how it Functions

#### (1) Historical

The Rural Electrical Reticulation Council, as it is known today, was conceived in 1944 by the Electrical Supply Authorities Association.

At that time, and for many prior years, the Association was concerned that the reticulation of the more sparsely settled parts of the Dominion was a problem beyond the financial resources of individual supply authorities for the reason that, under the existing electric-supply conditions, the guarantees of revenue required from potential electricity consumers could be too high for these rural residents to meet.

In 1944 it was estimated that about 3 per cent of the population of New Zealand was outside the economic reach of electricity, but the exact number and location was uncertain. But it was known that the majority of these people had little prospect of receiving electricity unless the matter was accepted as a national responsibility.

Therefore, in 1944, the Electrical Supply Authorities Association set up a Committee to consider a solution to the problem and report thereon. The chairman of this committee was the late Councillor M. E. Lyons, of the Christchurch Municipal Electricity Department, whose name is written large across the pages of that early history.

The committee had as its order of reference a direction by Annual Conference:

“To formulate proposals on a national basis for the rural reticulation of sparsely settled areas so as to extend electric supply as far as is practical and reasonably economical.”

The committee conducted its investigations, propounded its scheme, and reported to the 1945 Conference, which adopted the report almost without alteration.

Dealing with the method of subsidy the report said:

“The actual reticulation of sparsely settled areas would be done by the Rural Boards in the same manner as their more payable areas were done. That is, by surveys, estimates of capital cost, obtaining of individual guarantees, load surveys, etc. They would raise loan monies in the usual way, but, instead of obtaining the whole of the required guarantee from the individual consumers, the deficiency in revenue would be provided from the funds to be levied by the Committee.”

The committee was insistent that there should be adequate guarantees put up by the individual consumer. It also insisted on placing a limit of  $7\frac{1}{2}$  per cent of the capital cost on the subsidy that would be given. The period of assistance was also fixed in order that the subsidy would terminate at a certain time within which the subsidised works should become self-supporting and not a permanent burden on the existing electricity consumers.

The committee recommended that the supervising authority (now known as the Rural Electrical Reticulation Council) should obtain its finance by way of a levy of one-quarter of one per cent ( $\frac{1}{4}\%$ ) on the

## APPENDIX E—*continued*

revenues received throughout the industry from the sales of electricity, including those of the State Hydro-Electric Department – subsequently the New Zealand Electricity Department.

The committee report was adopted by Conference and, having received sympathetic acceptance by Government, its provisions were written into statute by way of the Electricity Act 1945 (No. 36).

### (2) The Electricity Act 1945

The Act, which was passed on 7 December 1945, is stated to be:

“An Act to establish a Rural Reticulation Council and to define its Functions.”

*The Council's personnel* is provided for as follows (section 7 (1)):

- (a) The General Manager of the Department, who shall be Chairman of the Council.
- (b) One person, being an officer of the Department, to be appointed by the Minister.
- (c) Three persons, to be appointed by the Minister on the recommendation of the Executive Committee of the Electrical Supply Authorities Association, each of whom shall at the time of his appointment be an elected member of an electrical supply authority.  
(Section 9 (1)) . . . every appointed member of the Council shall be appointed for a term of three years . . .

*The functions of the Council* (section 14):

- (1) (a) To control and administer the Rural Reticulation Fund.
- (b) To fix the rate of levy payable by electrical supply authorities to the Fund.
- (c) To investigate claims for subsidies from the Fund and determine the amount of the subsidies and the terms and conditions (if any) upon and subject to which the subsidies may be granted.
- (d) To advise the Government in relation to any of the foregoing matters and as to any regulations that may be necessary for the proper administration of this Act.
- (2) The Council shall have such other functions as are by this Act or any other Act imposed upon it.

*Levy* (section 16):

(1) Each electrical supply authority shall within one month after the expiration of each financial year . . . pay to the . . . Rural Reticulation Fund a sum by way of levy, being such proportion of the gross revenues . . . from the sales of electrical energy . . . as is determined pursuant to the next succeeding subsection.

(2) The proportion of the gross revenues payable . . . shall be a one four-hundredth part thereof or such lesser proportion as may for the time being be fixed by the Council.

## APPENDIX E—*continued*

### *Subsidies* (section 17):

(1) There shall from time to time . . . be paid out of the Rural Reticulation Fund such sums as the Council shall direct to be paid by way of subsidies pursuant to the next succeeding section.

### *Section 18:*

(1) Subject to the provisions of this section, the Council may . . . direct the payment to any electrical supply authority of such sum as the Council may think fit by way of subsidy towards the annual cost of supplying electricity to any consumer or group of consumers in any sparsely populated area. Each such subsidy shall be granted in respect of the whole or a defined portion of an electric line serving an area or consumer.

(2) Subsidies granted under this section shall not in any financial year . . . exceed fifteen two-hundredths (subsequently amended by s. 2 of the Electricity Amendment Act 1955, with further amendment pending) (see 1959 annual report of the Rural Electrical Reticulation Council).

(3) Any subsidy granted under this section may be granted upon and subject to such terms and conditions as the Council thinks fit . . .

### *Annual Report* (section 21):

(1) The Minister shall in the month of June . . . cause to be prepared a report on the operations of the Council, and a statement of accounts for the year ended the thirty-first day of March . . .

(2) The report and statement of accounts shall be laid before Parliament . . .

### **(3) Basis of Subsidies**

Initially the Act provided for a *maximum* subsidy of fifteen two-hundredths of the capital cost of electric line supplying the rural area. This amount being based on the considered opinion that an authority needed a revenue of 15 per cent to meet the actual cost to it of:

- (a) Cost of power;
- (b) Interest;
- (c) Depreciation;
- (d) Maintenance.

Since then, as stated previously, because of increased costs of items enumerated above, the permissible percentage has been increased as circumstances decreed.

With respect to subsidies approved after 1 April 1958, the permissible revenue receivable from a subsidised line by a supply authority is 19½ per cent, calculated as follows:

				Per cent
Interest	.....	.....	.....	5
Depreciation	.....	.....	.....	4
Maintenance	.....	.....	.....	2½
Cost of power	.....	.....	.....	7¾
				19½

## APPENDIX E—*continued*

This schedule was adopted by the Rural Electrical Reticulation Council on 11 June 1958.

Not less than half of the present subsidy must be obtained from the rural consumer, and not more than 8½ per cent may be obtained by way of subsidy from the Council. (See 1959 annual report of the Rural Electrical Reticulation Council.)

### (4) Practical Application of Scheme

The following actual example is provided to enable an appreciation to be obtained of the method of applying for subsidy; the erection of an approved subsidised line; and the revenues obtained thereon by way of consumer contribution and Reticulation Council subsidy:

#### (a) Survey:

Board "A" having received a request for supply to a remote area, involving 14 consumers and 10 miles of line, made a survey of the proposed extension and estimated the total cost thereof to be £4,984.

Meetings were held with the settlers and guarantees totalling £388 were decided upon. These guarantees ranged from £4 10s. per annum to £52 per annum. The average guarantee was £28 per annum. At a later date six additional consumers were added and guarantees increased to £425.

#### (b) Application to Rural Electrical Reticulation Council for Provisional Subsidy:

On 2 July 1948 application was made to the Council for the approval of this extension and for a subsidy of £360 per annum.

#### (c) Provisional Subsidy Approved:

The Council approved the application and granted "a provisional subsidy" of 3 per cent on the estimated cost of £4,984 for a period of 10 years. This was arrived at as follows:

	£
15 per cent of ceiling cost of £3,565 .....	..... 535
Revenue expected by the board .....	..... 388
Provisional subsidy (3 per cent of £4,984) .....	<hr/> 147

#### (d) Notice of Completion:

The extension was completed and "Notice of Completion" forwarded to the Council in September 1949.

The complete cost of the extension was £6,848.

#### (e) Ceiling Cost:

The "ceiling cost" of this job, which actually cost the board £6,848 was fixed at £5,556, which in effect meant that the maximum revenue receivable (by way of sales of electricity, guarantee deficiency, and

## APPENDIX E—*continued*

subsidy) was limited to 15 per cent of £5,556, i.e., £833 per annum, made up as follows:

Revenue .....	.....	403	(additional
Subsidy from R.E.R. Council .....	.....	430	guarantees
	—	—	obtained.)
		833	

Any revenue in excess of £403 per annum from consumers would result in a corresponding reduction in subsidy with the effect that the board's revenue would remain constant at £833 until such time as the consumers' contributions exceeded £833 per annum, by which time the subsidy would be discontinued.

### (f) *Subsidy and Revenue:*

This line has been in operation nine years, with the following financial results:

Year	Revenue From Consumers £	Subsidy Received £	Total Revenue £
First .....	589	244	833
Second .....	603	230	833
Third .....	684	149	833
Fourth .....	767	119	886
Fifth .....	815	88	903
Sixth .....	840	63	903
Seventh .....	885	18	903
Eighth .....	902	1	903
Ninth .....	1,055	Nil	1,055

The following points arise from the above figures:

1. Although permissible subsidisable revenue was originally fixed at 15 per cent this was raised to 16½ per cent in 1953 to allow for increased cost of power.
2. Because of increasing consumption by consumers the subsidy gradually diminished until it was extinguished after the eighth year. But the board's revenue remained constant at £833 before the increase in the cost of power and at £903 up to the eighth year—equal to 13 per cent of the actual cost of the extension.

### (5) Annual Report of Rural Electrical Reticulation Council for the Year Ended 31 March 1959

An appreciation of the working and ramification of the Council may be obtained from the annual report of the chairman for the year ended 31 March 1959.

#### GENERAL

To 31st March, 1959, subsidies have been approved on 5,875 route miles of distribution line which, when completed, will supply 9,579 consumers. The total capital expenditure for construction of these lines is estimated to be £4,187,380 and the annual subsidy approved by the council amounts to £185,099.

## APPENDIX E—*continued*

During the year, the council was notified that a further 580 route miles of line had been constructed. The total completed to date is now 4,854 route miles at a cost of £3,360,412, and 8,127 consumers have been connected to the public supply.

The electrical supply authorities have informed the council that, in addition to the slightly more than 1,000 route miles of line approved for subsidies that have not yet been constructed, a further 1,820 miles will be required in order to complete the bulk of the reticulation of the sparsely populated areas. The cost of this further work is estimated at £1,800,000, or nearly £1,000 a route mile.

From other figures supplied to the council in reply to a questionnaire, it would appear that the average cost of this further work will be close to £600 per consumer. To meet the annual costs on this expenditure the electrical supply authorities require a revenue of about £120 from the consumer and such subsidy as may be granted. It is a measure of the growing cost of work done under the subsidy scheme that this figure is almost four times the revenue required in connecting consumers during the first few years of the scheme.

During the year a subsidy was provisionally granted for the reticulation of the Coromandel Peninsula. This project is actively under way and will cost the electrical supply authority in the region of £220,000. It is expected that power will be available in parts of the area in 1960.

It became evident to the council during the year that the rising cost of connecting new consumers, and the probability of some line extensions not becoming economic in a reasonable time, would make it essential to raise the present upper limits of financial assistance permitted by the Act. At the present time the maximum revenue allowed by the council for a subsidised line is 19½ per cent of the capital cost, and the period for which a subsidy may be paid on any one line is limited by the Act to a maximum of 15 years. It has been recommended that the maximum subsidy be increased from the present 8½ per cent up to one-half of the maximum percentage revenue fixed by the council from time to time, and that the period for which a subsidy may be paid be extended to a maximum of 20 years. Both of these changes would necessitate legislation, which it is hoped will be placed before Parliament this year.

The payment of subsidies from the Rural Electrical Reticulation Fund now considerably exceeds the annual income from the  $\frac{1}{4}$  per cent levy, and the disparity between receipts and payments will continue to increase for several years. It is anticipated, however, that the reserves held in the fund together with the rising income will be barely sufficient to enable future claims for payment of subsidies to be met. Any changes of policy agreed upon by council and the electrical supply authorities would call for a close re-examination of this assessment.

### APPLICATION FOR SUBSIDIES

Sixty-five applications covering the construction of 563 route miles of line to supply 766 prospective consumers at an estimated capital cost of £470,831 were received from 30 electrical supply authorities during the year. The subsidies provisionally approved averaged 7·0 per cent of the capital cost, which is within the 8½ per cent allowed by the Act.

## APPENDIX E—*continued*

Details of the applications are given in table I, and the consolidated position as at 31 March, 1959, is given in Table II.

**Table I—Summary of Applications approved in the Year Ended 31 March, 1959**

Number of Applications	Route Miles of Line	Number of Consumers	Estimated Capital Cost	Provisional Subsidy per Annum
65	563·3	766	£470,831	£32,753

**Table II—Consolidation of Applications Approved as at 31 March 1959**

(Combines actual figures for lines constructed and estimates for lines uncompleted)

Number of supply authorities .....	.....	45
Number of applications .....	.....	903
Route miles of line .....	.....	5,875
Number of consumers .....	.....	9,579
Capital cost .....	.....	£4,187,380
Provisional subsidy per annum .....	.....	£185,099
Average subsidy (per cent) .....	.....	4·4

**Table IV—Consolidation of Subsidised Lines Constructed as at 31st March 1959**

Number of supply authorities .....	.....	40
Number of applications .....	.....	808
Route Miles of line .....	.....	4,854
Number of consumers connected .....	.....	8,127
Actual capital cost of lines constructed	.....	£3,360,412

The rise in capital cost as lines have been extended into more sparsely settled areas is illustrated by the following figures, giving at the end of each year the average cost of all lines constructed since the commencement of the subsidy scheme:

As at 31 March	Capital Cost per Mile £	Capital Cost per Consumer £	Consumer Density per Mile
1948 .....	488	210	2·34
1949 .....	506	223	2·28
1950 .....	503	239	2·10
1951 .....	538	275	1·96
1952 .....	549	284	1·93
1953 .....	572	303	1·90
1954 .....	581	315	1·84
1955 .....	616	349	1·77
1956 .....	637	357	1·79
1957 .....	659	377	1·75
1958 .....	680	392	1·74
1959 .....	692	413	1·67

**TABLE V—Subsidies paid in the year ended 31 March, 1959**

The 36 Authorities named in this paragraph of the Chairman's Report received, in all, subsidies totalling £99,167.

**APPENDIX E—*continued***

**TABLE VI—Rural Electrical Reticulation Fund, as at 31 March, 1959**

	£ s. d.	£ s. d.
Cash balance in fund as at 1 April, 1958 .....	80,065 0 11	143,928 10 1
Receipts from annual levy .....	<u>3,425 0 0</u>	<u>83,490 0 11</u>
Interest on investments .....		
Subsidies paid during year .....	99,167 0 0	227,418 11 0
Administration costs and expenses .....	<u>193 19 11</u>	<u>99,360 19 11</u>
Cash balance as at 31 March, 1959 .....		128,057 11 1
Sundry creditor: Electric Supply Account—		
Administration costs and expenses .....		221 10 6
Net balance in fund at 31 March, 1959 .....		<u>£127,836 0 7</u>

For and on behalf of the Electrical Supply Authorities Association  
of New Zealand—

W. S. N. RENNIE, President.  
N. G. DUNNING, Secretary.

Wellington, 10th August, 1959."

**APPENDIX F**

**Statistics for the Year Ended 31 March 1958**

Assuming that bulk and feed-back sales are at cost and remain unaltered, the surplus or deficiency for each supply authority, if all units were sold at the average cost for all authorities, would be as follows:

(Note—No expenditure on capital works is allowed for.)

Supply Authority	A	B <sup>1</sup>	C	D	E	F	G	
							Revenue at 1·03s18d. per Unit	Surplus
1. Ashburton	..	..	..	£ 207,730	kWh 48,998,169	£ 211,341	£ 3,611	..
2. Auckland	..	..	..	2,751,823	689,684,045	2,974,780	222,957	19,312
3. Banks Peninsula	..	..	..	52,104	7,602,586	32,792	..	..
4. Bay of Islands	..	..	..	286,759	48,683,555	209,984	..	76,775
5. Bay of Plenty	..	..	..	268,414	76,408,660	329,570	61,156	..
6. Buller	..	..	..	53,959	8,506,062	36,689	..	17,270
7. Cambridge	..	..	..	81,931	81,054	76,328	..	4,726
8. Central Hawke's Bay	..	..	..	143,381	17,696,148	111,096	..	32,285
9. Central Waikato	..	..	..	484,975	25,756,871	436,855	..	48,120
10. Dannevirke	..	..	..	111,076	101,282,102	93,235	..	17,841
11. Franklin	..	..	..	285,332	21,615,942	..	..	..
12. Golden Bay	..	..	..	564	284,768	63,206,201	272,624	12,144
13. Grey	..	..	..	1,544	61,521	24,690,000	106,494	44,973
14. Hawke's Bay	..	..	..	63,065	181,103	38,496,861	166,047	15,056
15. Horowhenua	..	..	..	549,404	480,430	113,001,676	487,404	6,974
				..	68,974	288,295	62,136,424	20,285
					..	288,295	62,136,424	20,285

16. Hutt Valley ..	..	..	..	1,049,967	254,980,715	1,099,796	49,829
17. King Country ..	..	..	..	74,886	10,842,261	46,765	28,121
18. Malvern ..	..	..	..	37,092	5,483,118	23,650	13,442
19. Manawatu-Oroua ..	..	..	153,115	280,331	66,752,216	287,919	..
20. Marlborough ..	..	..	14,956	169,317	31,399,425	135,434	33,883
21. North Auckland ..	..	..	393,607	71,864	321,743	65,118,071	..
22. North Canterbury ..	..	..	192,839	27,942	164,997	32,509,077	40,872
23. Opunake ..	..	..	76,269	4,174	72,095	13,602,201	24,677
24. Otago ..	..	..	..	..	244,633	35,230,634	13,425
25. Otago Central ..	..	..	..	..	88,212	25,510,645	92,674
26. Poverty Bay ..	..	..	..	..	284,351	53,388,830	..
27. South Canterbury ..	..	..	367,872	107,098	260,774	40,496,350	54,072
28. South Taranaki ..	..	..	161,287	20,646	140,641	38,995,359	86,103
29. Springs-Elllesmere ..	..	..	..	..	228,428	60,310,052	..
30. Taranaki ..	..	..	240,469	101,682	138,787	31,285,279	27,557
31. Tararua ..	..	..	..	..	116,156	18,558,527	31,704
32. Tauranga ..	..	..	..	..	279,019	62,227,435	31,704
33. Te Awamutu ..	..	..	..	..	165,832	34,963,012	..
34. Teviot ..	..	..	..	..	21,827	4,971,552	15,028
35. Thames Valley ..	..	..	688,162	34,711	653,451	175,826,751	384
36. Waimea ..	..	..	275,580	74,169	201,411	49,612,878	..
37. Wairarapa ..	..	..	289,610	7,097	282,513	59,623,036	25,344
38. Wairete ..	..	..	50,699	2,906	47,793	8,208,837	12,386
39. Wairoa ..	..	..	71,321	21,646	49,675	8,667,571	12,290
40. Waitaki ..	..	..	192,801	19	192,782	40,421,539	18,434
41. Waitemata ..	..	..	..	..	895,673	213,993	12,582
42. Waitomo ..	..	..	..	..	194,451	257,169	72,175
43. Whanganui-Rangitikei ..	..	..	481,360	12,475	468,885	37,161,172	..
44. Christchurch ..	..	..	1,470,524	212	1,470,312	376,058,039	34,166
45. Dunedin ..	..	..	..	..	..	1,622,032	26,744
					885,891	268,136,023	1,156,538
					..	..	..

<sup>1</sup>Where no figure appears in column B the figure is the same as that in column D.

**APPENDIX F—continued**

**Statistics for the Year Ended 31 March 1958—continued**

Supply Authority	A	B <sup>1</sup>	C	D	E	F	G
		Total Costs	Revenue from Bulk Sales and Feed Back	B-C	Unit Sales Excluding Bulk	Revenue at 1.03518d. per Unit	Surplus
46. Hamilton	..	..	£	£	£	£	£
47. Invercargill	..	..	..	136,480	41,141,368	177,453	30,230
48. Napier	..	..	..	181,116	34,982,016	150,886	..
49. Nelson	..	..	..	114,406	26,992,777	116,427	2,021
50. New Plymouth	..	..	281,877	..	136,865	31,062,292	133,979
51. Palmerston North	..	..	..	..	243,702	72,162,000	311,253
52. Timaru	..	..	..	..	222,093	64,073,962	276,367
53. Wellington	..	..	..	..	145,782	39,325,818	169,622
54. Bluff	..	..	..	..	1,093,286	270,044,221	1,164,768
55. Inglewood	..	..	..	..	21,188	3,678,859	15,868
56. Kaiapoi	..	..	..	..	19,668	2,862,033	12,345
57. Lyttelton	..	..	..	..	..	..	..
58. Ohakune	..	..	17,579	..	22,034	4,392,789	18,947
59. Patea	..	..	..	614	26,816	5,215,193	22,494
60. Raetihi	..	..	..	..	16,965	2,445,933	11,844
61. Bangiora	..	..	..	..	21,203	3,835,286	16,543
62. Riccarton	..	..	..	..	14,240	2,147,511	9,263
63. Rotorua	..	..	..	..	..	..	..
64. Stratford	..	..	..	..	..	..	..
65. Taipape	..	..	..	..	..	..	..

66. Taumarunui	..	34,216	8,973	25,243	5,434,467	..	1,803
67. Taupo	..	32,719	647	32,072	4,839,781	..	11,197
68. Tauranga	..	44,702	3,614	41,088	15,634,857	67,523	26,435
69. Te Aroha	..	..	..	25,330	5,053,009	21,795	3,535
70. Thames	..	..	..	35,276	9,315,576	40,180	..
71. Wairoa	..	..	..	28,635	7,497,127	32,337	3,702
72. Waitara	..	..	..	21,824	4,691,606	20,236	..
73. Whakatane	..	..	..	48,118	9,415,988	40,614	7,504
74. Whangarei	..	..	..	115,506	22,262,342	96,023	19,483
75. Southland	..	..	678,580	133,604	544,976	83,680,806	360,936
76. Kaponga	..	..	..	..	21,196	3,706,321	15,986
77. Mangaweka	..	..	..	..	4,013	584,418	2,521
78. Heathcote	..	..	..	..	39,073	12,111,800	52,241
79. Kaikoura	..	..	..	..	27,734	809,688	3,492
80. Murchison	..	..	..	..	9,600	1,172,912	5,059
81. Mackenzie	..	..	..	..	..	..	..
82. Amethyst	..	..	..	..	6,548	75,199	324
83. Kanieri Electric	..	..	22,855	..	5,459	572,707	2,470
84. Westland Power	..	..	28,957	1,166	17,260	3,644,341	15,719
All supply authorities	..	20,060,643	953,020	19,107,623	4,429,974,423	19,107,587	1,332,021
							1,332,058

<sup>1</sup>Where no figure appears in column B the figure is the same as that in column D.

**APPENDIX G**  
**Suggested Amalgamations**

Area	Authority	Area, in Square Miles	Retail Sales Millions of Units	Revenue from Retail Sales		Surplus		Possible Saving by Amalgama- tion per Unit Sold
				Total	Per Unit Sold	Total	Per Unit Sold	
<b>1 New Northland</b>	Bay of Islands Electric Power Board	..	2,637	48·2	£375,376	£1·868	21,176	0·105 d.
	North Auckland Electric Power Board	..	2,210	83·3	516,798	1·489	95,102	0·274 ..
	Whangarei borough	..	5	22·5	144,848	1·548	3,123	0·033 ..
<b>2 Waitemata</b>	..	..	<b>4,852</b>	<b>154·0</b>	<b>1,037,022</b>	<b>1·616</b>	<b>119,401</b>	<b>0·186</b> 11·5
<b>3 New Auckland</b>	Auckland Electric Power Board	..	1,117	189·1	1,218,436	1·546	90,647	0·115 7·4
	Franklin Electric Power Board	..	361	671·2	3,615,217	1·293	224,927	0·080 ..
	..	857	60·9	384,709	1·516	39,031	0·154 10·1	..
<b>4 New Waikato</b>	..	..	<b>1,218</b>	<b>732·1</b>	<b>3,999,926</b>	<b>1·311</b>	<b>263,958</b>	<b>0·086</b> 6·6
	Central Waikato Electric Power Board	..	1,187	100·1	670,102	1·607	62,721	0·150 9·4
	Hamilton city	..	5	39·5	263,265	1·600	98,093	0·596 37·3
	Cambridge Electric Power Board	..	147	16·8	121,925	1·743	27,835	0·398 22·8
	Te Awarau Electric Power Board	..	550	32·6	225,796	1·665	11,098	0·082 4·9
	..	..	1,889	189·0	1,281,088	1·627	199,747	0·254 15·6

	Thames Valley Electric Power Board	..	2,315	179·8	900,215	1,202	51,793	0·069	5·7	..
	Thames borough	..	4	9·3	63,716	1,645	22,017	0·568	34·5	..
	Te Aroha borough	..	5	5·1	29,813	1,410	2,317	0·109	7·8	..
<b>5</b>	<b>New Thames</b>	..	2,324	194·2	993,744	1,228	76,127	0·094	7·7	..
	Waimomo Electric Power Board	..	1,510	39·0	250,530	1·541	16,865	0·104	6·7	..
	Wairere Electric Power Board	..	904	8·5	49,082	1·384	3,046	0·086	6·2	..
	King Country Electric Power Board	..	3,728	12·5	120,429	2·313	33,450	0·642	27·8	..
	Taumarunui borough	..	47	6·1	47,832	1·881	14,846	0·584	31·0	..
<b>6</b>	<b>New King Country</b>	..	6,189	66·1	467,873	1·699	68,207	0·248	14·6	0·111
	Rotorua Electric Supply	..	1,269	41·7	289,213	1·665	2,510	0·014	0·9	..
	Taupo borough	..	74	6·3	54,815	2·087	14,250	0·543	26·0	..
<b>7</b>	<b>New Rotorua</b>	..	1,343	48·0	344,028	1·720	16,760	0·084	4·9	0·038
	Tauranga Electric Power Board	..	667	62·3	358,328	1·381	1,199	0·005	0·3	..
	Tauranga borough	..	2	15·8	69,803	1·060	36,564	0·555	52·4	..
	Bay of Plenty Electric Power Board	..	3,214	76·5	396,157	1·242	69,659	0·218	17·6	..
	Whakatane borough	..	2	9·7	71,858	1·775	16,720	0·414	23·3	..
<b>8</b>	<b>New Bay of Plenty</b>	..	3,885	164·3	896,146	1·309	124,142	0·181	13·8	0·044
<b>9</b>	<b>Poverty Bay</b>	..	2,892	52·6	381,354	1·740	44,901	0·205	11·8	..
	Wairoa Electric Power Board	..	1,354	7·8	64,104	1·963	4,906	0·151	7·6	..
	Wairoa borough	..	3	7·2	44,986	1·508	5,044	0·168	11·2	..
<b>10</b>	<b>New Wairoa</b>	..	1,357	15·0	109,090	1·746	9,950	0·159	9·1	0·140

**APPENDIX G—*continued***  
**Suggested Amalgamations—*continued***

Area	Authority	Area, in Square Miles	Retail Sales Millions of Units	Revenue from Retail Sales		Surplus			Possible Saving by Amalgama- tion per Unit Sold
				Total	Per Unit Sold	Total	Per Unit Sold Retail	Per Cent of Retail Revenue	
<b>11 New Hawke's Bay</b>	Hawke's Bay Electric Power Board	..	1,684	113.3	£680,246	£1.441	65,123	d. 0.138	d. 9.6 ..
	Napier city	2	26.5	160,723	1.457	36,895	0.334	22.9 ..	
	Central Hawke's Bay Electric Power Board	1,300	26.7	187,932	1.688	25,229	0.227	13.4 ..	
	Dannevirke Electric Power Board	812	21.4	158,693	1.778	26,322	0.295	16.6 ..	
<b>12 New Wairarapa</b>	..	..	3,798	187.9	1,187,594	1.517	153,569	0.196	12.9 0.057
	Taranua Electric Power Board	..	1,045	18.4	143,225	1.868	11,302	0.147	7.9 ..
	Wairarapa Electric Power Board	..	2,157	61.5	351,703	1.372	22,147	0.086	6.3 ..
<b>13 New Taranki</b>	..	..	3,202	79.9	494,928	1.486	33,449	0.100	6.8 0.069
	New Plymouth city	..	228	70.9	344,261	1.166	58,644	0.198	17.0 ..
	Taranki Electric Power Board	..	1,577	31.9	200,251	1.507	47,134	0.355	23.5 ..
	Waitara borough	2	4.6	33,166	1.722	6,215	0.324	18.7 ..	
	Stratford borough	..	3	9.2	62,179	1.628	15,686	0.409	25.2 ..
	Inglewood borough	..	..	2.9	22,551	1.866	3,537	0.293	15.7 ..
	Kaponga Town Board	..	1	..	28,247	1.825	2,298	0.149	8.1 ..
	South Taranki Electric Power Board <sup>1</sup>	..	70	3.7	243,070	1.350	42,210	0.235	17.4 ..
	Opunake Electric Power Board	..	490	43.2	94,894	1.623	10,671	0.183	11.2 ..
<b>13 New Taranki</b>	..	..	2,631	180.4	1,028,619	1.368	186,395	0.248	18.1 0.106

	Wanganui-Rangitikei Electric Power Board	2,623	102.3	590,389	1.385	57,436	0.135	9.7	
	Taihape borough	3	3.6	29,240	1.966	4,117	0.274	14.1	..
	..	2	0.6	4,974	2.122	942	0.377	18.9	..
	Mangaweka Town Board	..	2.6	23,640	2.163	3,516	0.324	14.9	..
	Ohakune borough	..	2.1	19,080	2.138	300	0.034	1.6	..
	Raetihi borough	..	..	..	..	..	..	..	..
<b>14</b>	<b>New Wanganui</b>	..	..	2,973	111.2	667,323	1.440	66,311	0.143
	..	..	..	..	..	..	..	..	..
	Manawatu-Oroua Electric Power Board	1,301	67.4	393,224	1.401	53,857	0.192	13.7	..
	Palmerston North city	..	8	337,557	1.315	54,291	0.211	16.1	..
	..	..	..	..	..	..	..	..	..
<b>15</b>	<b>New Manawatu</b>	..	..	1,309	129.0	730,781	1.360	108,148	0.201
	..	..	..	..	..	..	..	..	..
	Wellington city	24	261.6	1,420,996	1.313	48,536	0.044	3.4	..
	Hutt Valley Electric Power and Gas Board	550	253.2	1,470,192	1.394	91,010	0.086	6.2	..
	Horowhenua Electric Power Board	630	61.0	387,183	1.524	40,186	0.158	10.4	..
	..	..	..	..	..	..	..	..	..
<b>16</b>	<b>New Wellington</b>	..	..	1,204	575.8	3,288,371	1.371	179,732	0.075
	..	..	..	..	..	..	..	..	..
	Golden Bay Electric Power Board	..	160	25.0	89,069	0.855	12,194	0.117	13.7
	Waimea Electric Power Board	..	1,560	52.8	287,275	1.306	51,694	0.235	18.0
	Nelson city	..	8	32.3	186,260	1.385	23,317	0.173	12.5
	..	..	..	..	..	..	..	..	..
<b>17</b>	<b>New Nelson</b>	..	..	1,728	110.1	562,604	1.226	87,205	0.190
	..	..	..	..	..	..	..	..	..
<b>18</b>	<b>Marlborough</b>	..	..	3,032	33.0	220,843	1.604	20,234	0.147
	..	..	..	..	..	..	..	..	..
	North Canterbury Electric Power Board	..	4,626	33.6	218,072	1.556	35,797	0.256	16.4
	Kaikoura county	..	24	0.9	21,031	5.473	..	..	..
	Rangiora borough	..	2	6.5	36,828	1.360	-182 <sup>a</sup>	0.017	0.3
	Kaiapoi borough	..	2	4.6	27,396	1.423	2,246	0.117	6.0
	..	..	..	..	..	..	..	..	..
<b>19</b>	<b>New North Canterbury</b>	..	..	4,654	45.6	303,327	1.594	37,925	0.199
	..	..	..	..	..	..	..	..	..

**APPENDIX G—continued**  
**Suggested Amalgamations—continued**

Area	Authority	Area, in Square Miles	Retail Sales Millions of Units	Revenue from Retail Sales		Surplus		Possible Saving by Amalgama- tion per Unit Sold
				Total	Per Unit Sold	Total	Per Cent of Retail Revenue	
	Christchurch city	..	..	94	389.8	2,218,969	1.366	d.
	Riccarton borough	..	..	1	18.6	113,463	1.464	0.105
	Lyttelton borough	..	4	5.4	36,524	1.635	0.98	7.7
	Heathcote county	..	..	6	12.6	56,474	1.097	13.5
	Malvern Electric Power Board	..	..	2,081	5.7	48,878	2.043	0.284
	Spring-Ellesmere Electric Power Board	..	..	524	65.4	355,763	1.306	..
	Banks Peninsula Electric Power Board	..	..	406	7.7	61,807	1.923	-0.027 <sup>a</sup>
20	New Christchurch	..	..	3,116	505.2	2,891,878	1.374	-2.5 <sup>a</sup>
	Ashburton Electric Power and Gas Board	..	..					-0.230
	South Canterbury Electric Power Board	..	..					11.2
	Timaru city	..	..					11.9
	Mackenzie county	..	..					5.3
21	New South Canterbury	..	..	5,330	137.1	842,646	1.475	..
22	Waitaki	..	..	..	2,974	43.2	277,444	1.541
								0.053
								10.7
								..

	Otago Electric Power Board	..	..	4,765 280	37·7 276·1	356,874 1,351,271	2·271 1·175	52,581 286,263	0·335 0·249	14·7 21·2	.. ..
<b>23</b>	<b>New Dunedin</b>	..	..	5,045	313·8	1,708,145	1·306	338,844	0·259	19·8	0·016
	Otago Central Electric Power Board	..	..	3,039	28·1 5·1	133,135 27,129	1·138 1·279	46,205 3,220	0·395 0·152	34·7 11·9	.. ..
<b>24</b>	<b>New Otago Central</b>	..	..	3,252	33·2	160,264	1·159	49,425	0·357	30·8	0·037
	Southland Power Supply	..	..	11,096	90·4 38·8 4·1	704,890 296,794 39,135	1·872 1·836 2·282	39,218 57,009 12,526	0·104 0·353 0·733	5·6 19·2 32·0	.. .. ..
<b>25</b>	<b>New Southland</b>	..	..	11,109	133·3	1,040,819	1·874	108,753	0·196	10·4	0·020
	Buller Electric Power Board	..	..	1,800	12·4	92,699	1·799	17,529	0·339	18·9	..
	Grey Electric Power Board	..	..	1,967	41·1	253,871	1·482	39,395	0·230	15·5	..
	Murchison county	..	..	254	1·4	9,733	1·722	1,180	0·202	12·1	..
	Westland Power Co.	..	..	357	4·0	35,137	2·107	8,365	0·502	23·8	..
	Kanieri Electric Co. <sup>3</sup>	..	..	10	4·0	27,144	1·618	12,809	0·769	47·2	..
	Ametyst Power Co.	..	..	100	0·6	6,674	2·605	1,638	0·655	24·5	..
<b>26</b>	<b>New Westland</b>	..	..	4,488	63·5	425,238	1·607	80,916	0·306	19·0	0·094

<sup>1</sup> The electric supply undertaking of Patea borough was taken over by the South Taranaki Electric Power Board on 1 October 1958. Figures for the first six months' operation of the borough are included in the board's figures for the year.

<sup>2</sup> Deficit.

<sup>3</sup> Taken over by Westland Electric Power Board from 6 August 1959.



## APPENDIX I

TABLE I

**Statistics for the Year Ended 31 March 1959**

Electrical Supply Authority	Revenue in Pence per kWh (per Unit) Sold for						
	Cost in Pence per kWh (per Unit) Sold	Working Expenses Plus Capital Charges	Domestic Supply	Commercial Supply	Industrial Supply	Miscel- laneous Supply	All Purposes (Excluding Bulk Supply)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Bay of Islands Electric Power Board	1.792	1.554	3.398	1.588	2.128	1.868	1.868
2. North Auckland Electric Power Board	1.180	1.379	3.156	1.270	1.820	1.489	1.368
3. Whangarei borough	1.516	1.039	2.939	..	1.329	1.548	1.548
4. Waimata Electric Power Board	1.438	1.302	2.470	2.505	1.488	1.546	1.546
5. Auckland Electric Power Board	1.219	1.050	3.237	1.519	1.412	1.293	1.293
6. Franklin Electric Power Board	1.377	1.254	3.457	2.702	1.659	1.516	1.515
7. Central Waikato Electric Power Board	1.468	1.358	3.388	1.603	1.674	1.607	1.607
8. Hamilton city	1.030	1.036	2.731	1.482	1.956	1.600	1.600
9. Rotorua Electric Supply	1.703	1.350	2.143	3.400	1.665	1.665	1.665
10. Taupo borough	1.331	1.949	2.217	3.059	0.953	2.088	1.759
11. Cambridge Electric Power Board	1.358	1.616	1.996	1.842	1.917	1.743	1.729
12. Te Awamutu Electric Power Board	1.591	1.305	3.126	2.244	1.903	1.665	1.665
13. Waitomo Electric Power Board	1.492	1.215	2.284	1.779	1.882	1.541	1.541
14. Wairere Electric Power Board	1.425	1.206	2.515	2.447	2.037	1.384	1.277
15. King Country Electric Power Board	1.641	2.066	2.178	3.163	3.229	2.313	2.012
16. Taumarunui borough	1.738	1.152	2.660	..	0.900	1.881	2.308
17. Thames Valley Electric Power Board	1.113	1.237	2.333	0.948	1.505	1.202	1.166
18. Thames borough	1.093	1.320	2.180	..	2.400	1.645	1.645
19. Te Aroha borough	1.308	1.216	1.709	2.052	1.261	1.410	1.410
20. Tauranga Electric Power Board	1.396	1.028	2.617	2.798	1.696	1.381	1.381
21. Tauranga borough	..	0.494	0.606	3.117	0.923	1.060	0.931

**APPENDIX I—*continued***

TABLE I—*continued*

**Statistics for the Year Ended 31 March 1959—*continued***

Electrical Supply Authority	Cost in Pence per kWh (per Unit) Sold	Revenue in Pence per kWh (per Unit) Sold for					
		Working Expenses Plus Capital Charges	Domestic Supply	Commercial Supply	Industrial Supply	Miscel- laneous Supply	All Purposes (Including Bulk Supply)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
22. Bay of Plenty Electric Power Board ..	1.016	1.152	3.759	1.093	1.600	1.243	1.184
23. Whakatane borough ..	1.406	1.307	3.075	1.203	1.775	1.775	
24. Poverty Bay Electric Power Board ..	1.594	1.420	4.054	2.132	2.530	1.740	1.740
25. Wairoa Electric Power Board ..	1.353	1.921	3.611	1.572	4.668	1.963	1.389
26. Waitoa borough ..	1.343	1.299	2.205	1.555	1.375	1.508	
27. Hawke's Bay Electric Power Board ..	1.212	1.200	2.009	1.973	3.363	1.441	1.299
28. Napier city ..	1.174	1.087	2.009	1.973	2.230	1.457	
29. Central Hawke's Bay Electric Power Board ..	1.543	1.423	2.600	2.411	3.025	1.688	1.688
30. Dannevirke Electric Power Board ..	1.524	1.554	3.228	2.185	1.863	1.778	1.778
31. New Plymouth city ..	1.151	0.908	1.905	1.329	1.166	1.338	
32. Taranaki Electric Power Board ..	1.321	1.245	2.903	1.670	1.658	1.507	1.497
33. Inglewood borough ..	1.587	1.392	3.055	3.013	1.212	1.867	1.867
34. Stratford borough ..	1.228	1.177	2.711	2.368	0.681	1.628	1.628
35. Waitara borough ..	1.421	1.608	2.489	3.944	1.109	1.722	1.722
36. Kaponga borough ..	1.740	1.363	2.372	3.760	2.110	1.825	1.825
37. Opunake Electric Power Board ..	1.542	1.239	2.288	2.762	1.849	1.623	1.691
38. South Taranaki ..	1.151	0.842	3.513	2.145	1.775	1.318	1.366
39. Patea borough* ..	1.881	1.858	3.513	3.777	1.181	2.097	2.097
40. Ohakune borough ..	1.914	1.977	2.221	5.966	1.559	2.163	2.163
41. Raetihi borough ..	1.165	1.780	2.330	4.671	1.531	2.138	2.151
42. Wanganui-Rangitikei Electric Power Board ..	1.284	1.033	2.561	4.840	1.385	1.361	

1.966	1.286	3.276
43. Taihape borough ..	..	..
44. Mangaweka Town Board ..	..	..
45. Manawatu-Oroua Electric Power Board ..	..	..
46. Palmerston North city ..	..	..
47. Horowhenua Electric Power Board ..	..	..
48. Tararua Electric Power Board ..	..	..
49. Wairarapa Electric Power Board ..	..	..
50. Hutt Valley Electric Power and Gas Board ..	..	..
51. Wellington city ..	..	..
52. Marlborough Electric Power Board ..	..	..
53. Nelson city ..	..	..
54. Waimate Electric Power Board ..	..	..
55. Golden Bay Electric Power Board ..	..	..
56. Buller Electric Power Board ..	..	..
57. Murchison county ..	..	..
58. Grey Electric Power Board ..	..	..
59. Amethyst Power Co. ..	..	..
60. Kaniere Electric Co. ..	..	..
61. Westland Power Co. ..	..	..
62. North Canterbury Electric Power Board ..	..	..
63. Rangiora borough ..	..	..
64. Kaikoura county ..	..	..
65. Kaiapoi borough ..	..	..
66. Malvern Electric Power Board ..	..	..
67. Springs-Elesmere Electric Power Board ..	..	..
68. Riccarton borough ..	..	..
69. Christchurch city ..	..	..
70. Lyttelton ..	..	..
71. Heathcote county ..	..	..
72. Banks Peninsula Electric Power Board ..	..	..
73. Ashburton Electric Power and Gas Board ..	..	..
74. South Canterbury Electric Power Board ..	..	..
75. Timaru city ..	..	..
76. Mackenzie county ..	..	..
77. Waitaki Electric Power Board ..	..	..
78. Otago Electric Power Board ..	..	..
79. Dunedin city ..	..	..
80. Tirohia Electric Power Board ..	..	..
81. Otago Central Electric Power Board ..	..	..
82. Southland Electric Power Supply ..	..	..
83. Invercargill city ..	..	..
84. Bluff borough ..	..	..
1.961	2.122	1.966
1.970	1.401	1.071
1.973	1.315	1.315
1.975	1.300	1.588
1.976	1.315	1.315
1.977	1.324	1.524
1.978	1.322	1.524
1.979	1.299	1.524
1.980	1.318	1.524
1.981	1.318	1.524
1.982	1.316	1.524
1.983	1.316	1.524
1.984	1.316	1.524
1.985	1.316	1.524
1.986	1.316	1.524
1.987	1.316	1.524
1.988	1.316	1.524
1.989	1.316	1.524
1.990	1.316	1.524
1.991	1.316	1.524
1.992	1.316	1.524
1.993	1.316	1.524
1.994	1.316	1.524
1.995	1.316	1.524
1.996	1.316	1.524
1.997	1.316	1.524
1.998	1.316	1.524
1.999	1.316	1.524
2.000	1.316	1.524
2.001	1.316	1.524
2.002	1.316	1.524
2.003	1.316	1.524
2.004	1.316	1.524
2.005	1.316	1.524
2.006	1.316	1.524
2.007	1.316	1.524
2.008	1.316	1.524
2.009	1.316	1.524
2.010	1.316	1.524
2.011	1.316	1.524
2.012	1.316	1.524
2.013	1.316	1.524
2.014	1.316	1.524
2.015	1.316	1.524
2.016	1.316	1.524
2.017	1.316	1.524
2.018	1.316	1.524
2.019	1.316	1.524
2.020	1.316	1.524
2.021	1.316	1.524
2.022	1.316	1.524
2.023	1.316	1.524
2.024	1.316	1.524
2.025	1.316	1.524
2.026	1.316	1.524
2.027	1.316	1.524
2.028	1.316	1.524
2.029	1.316	1.524
2.030	1.316	1.524
2.031	1.316	1.524
2.032	1.316	1.524
2.033	1.316	1.524
2.034	1.316	1.524
2.035	1.316	1.524
2.036	1.316	1.524
2.037	1.316	1.524
2.038	1.316	1.524
2.039	1.316	1.524
2.040	1.316	1.524
2.041	1.316	1.524
2.042	1.316	1.524
2.043	1.316	1.524
2.044	1.316	1.524
2.045	1.316	1.524
2.046	1.316	1.524
2.047	1.316	1.524
2.048	1.316	1.524
2.049	1.316	1.524
2.050	1.316	1.524
2.051	1.316	1.524
2.052	1.316	1.524
2.053	1.316	1.524
2.054	1.316	1.524
2.055	1.316	1.524
2.056	1.316	1.524
2.057	1.316	1.524
2.058	1.316	1.524
2.059	1.316	1.524
2.060	1.316	1.524
2.061	1.316	1.524
2.062	1.316	1.524
2.063	1.316	1.524
2.064	1.316	1.524
2.065	1.316	1.524
2.066	1.316	1.524
2.067	1.316	1.524
2.068	1.316	1.524
2.069	1.316	1.524
2.070	1.316	1.524
2.071	1.316	1.524
2.072	1.316	1.524
2.073	1.316	1.524
2.074	1.316	1.524
2.075	1.316	1.524
2.076	1.316	1.524
2.077	1.316	1.524
2.078	1.316	1.524
2.079	1.316	1.524
2.080	1.316	1.524
2.081	1.316	1.524
2.082	1.316	1.524
2.083	1.316	1.524
2.084	1.316	1.524
2.085	1.316	1.524
2.086	1.316	1.524
2.087	1.316	1.524
2.088	1.316	1.524
2.089	1.316	1.524
2.090	1.316	1.524
2.091	1.316	1.524
2.092	1.316	1.524
2.093	1.316	1.524
2.094	1.316	1.524
2.095	1.316	1.524
2.096	1.316	1.524
2.097	1.316	1.524
2.098	1.316	1.524
2.099	1.316	1.524
2.100	1.316	1.524
2.101	1.316	1.524
2.102	1.316	1.524
2.103	1.316	1.524
2.104	1.316	1.524
2.105	1.316	1.524
2.106	1.316	1.524
2.107	1.316	1.524
2.108	1.316	1.524
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2.110	1.316	1.524
2.111	1.316	1.524
2.112	1.316	1.524
2.113	1.316	1.524
2.114	1.316	1.524
2.115	1.316	1.524
2.116	1.316	1.524
2.117	1.316	1.524
2.118	1.316	1.524
2.119	1.316	1.524
2.120	1.316	1.524
2.121	1.316	1.524
2.122	1.316	1.524
2.123	1.316	1.524
2.124	1.316	1.524
2.125	1.316	1.524
2.126	1.316	1.524
2.127	1.316	1.524
2.128	1.316	1.524
2.129	1.316	1.524
2.130	1.316	1.524
2.131	1.316	1.524
2.132	1.316	1.524
2.133	1.316	1.524
2.134	1.316	1.524
2.135	1.316	1.524
2.136	1.316	1.524
2.137	1.316	1.524
2.138	1.316	1.524
2.139	1.316	1.524
2.140	1.316	1.524
2.141	1.316	1.524
2.142	1.316	1.524
2.143	1.316	1.524
2.144	1.316	1.524
2.145	1.316	1.524
2.146	1.316	1.524
2.147	1.316	1.524
2.148	1.316	1.524
2.149	1.316	1.524
2.150	1.316	1.524
2.151	1.316	1.524
2.152	1.316	1.524
2.153	1.316	1.524
2.154	1.316	1.524
2.155	1.316	1.524
2.156	1.316	1.524
2.157	1.316	1.524
2.158	1.316	1.524
2.159	1.316	1.524
2.160	1.316	1.524
2.161	1.316	1.524
2.162	1.316	1.524
2.163	1.316	1.524
2.164	1.316	1.524
2.165	1.316	1.524
2.166	1.316	1.524
2.167	1.316	1.524
2.168	1.316	1.524
2.169	1.316	1.524
2.170	1.316	1.524
2.171	1.316	1.524
2.172	1.316	1.524
2.173	1.316	1.524
2.174	1.316	1.524
2.175	1.316	1.524
2.176	1.316	1.524
2.177	1.316	1.524
2.178	1.316	1.524
2.179	1.316	1.524
2.180	1.316	1.524
2.181	1.316	1.524
2.182	1.316	1.524
2.183	1.316	1.524
2.184	1.316	1.524
2.185	1.316	1.524
2.186	1.316	1.524
2.187	1.316	1.524
2.188	1.316	1.524
2.189	1.316	1.524
2.190	1.316	1.524
2.191	1.316	1.524
2.192	1.316	1.524
2.193	1.316	1.524
2.194	1.316	1.524
2.195	1.316	1.524
2.196	1.316	1.524
2.197	1.316	1.524
2.198	1.316	1.524
2.199	1.316	1.524
2.200	1.316	1.524
2.201	1.316	1.524
2.202	1.316	1.524
2.203	1.316	1.524
2.204	1.316	1.524
2.205	1.316	1.524
2.206	1.316	1.524
2.207	1.316	1.524
2.208	1.316	1.524
2.209	1.316	1.524
2.210	1.316	1.524
2.211	1.316	1.524
2.212	1.316	1.524
2.213	1.316	1.524
2.214	1.316	1.524
2.215	1.316	1.524
2.216	1.316	1.524
2.217	1.316	1.524
2.218	1.316	1.524
2.219	1.316	1.524
2.220	1.316	1.524
2.221	1.316	1.524
2.222	1.316	1.524
2.223	1.316	1.524
2.224	1.316	1.524
2.225	1.316	1.524
2.226	1.316	1.524
2.227	1.316	1.524
2.228	1.316	1.524
2.229	1.316	1.524
2.230	1.316	1.524
2.231	1.316	1.524
2.232	1.316	1.524
2.233	1.316	1.524
2.234	1.316	1.524
2.235	1.316	1.524
2.236	1.316	1.524
2.237	1.316	1.524
2.238	1.316	1.524
2.239	1.316	1.524
2.240	1.316	1.524
2.241	1.316	1.524
2.242	1.316	1.524
2.243	1.316	1.524
2.244	1.316	1.524
2.245	1.316	1.524
2.246	1.316	1.524
2.247	1.316	1.524
2.248	1.316	1.524
2.249	1.316	1.524
2.250	1.316	1.524
2.251	1.316	1.524
2.252	1.316	1.524
2.253	1.316	1.524
2.254	1.316	1.524
2.255	1.316	1.524
2.256	1.316	1.524
2.257	1.316	1.524
2.258	1.316	1.524
2.259	1.316	1.524
2.260	1.316	1.524
2.261	1.316	1.524
2.262	1.316	1.524
2.263	1.316	1.524
2.264	1.316	1.524
2.265	1.316	1.524
2.266	1.316	1.524
2.267	1.316	1.524
2.268	1.316	1.524
2.269	1.316	1.524
2.270	1.316	1.524
2.271	1.316	1.524
2.272	1.316	1.524
2.273	1.316	1.524
2.274	1.316	1.524
2.275	1.316	1.524
2.276	1.316	1.524
2.277	1.316	1.524
2.278	1.316	1.524
2.279	1.316	1.524
2.280	1.316	1.524
2.281	1.316	1.524
2.282	1.316	1.524
2.283	1.316	1.524
2.284	1.316	1.524
2.285	1.316	1.524
2.286	1.316	1.524
2.287	1.316	1.524
2.288	1.316	1.524
2.289	1.316	1.524
2.290	1.316	1.524

\* Taken over by South Taranaki Electric Power Board, 10 October 1958.

**APPENDIX I**

**TABLE II**

**Domestic Tariffs as at 1 April 1958 (per Month)**

	Bay of Islands E.P.B.	North Auckland E.P.B.	Whangarei Borough Council	Waiemata E.P.B.	Auckland E.P.B.
1. General supply including water heating	All units 1·3d. per unit	All units 1½d. per unit	..	..	First 20 units at 3s. 6d. per 10 units Balance at 9½d. per 10 units
2. General supply excluding water heating	All units 2·3d. per unit	All units 2½d. per unit	First 16 units at 5d. per unit Balance at 1·625d. per unit	First 30 units at 5d. per unit Balance at 1·1d. per unit	First 20 units at 3s. 6d. per 10 units Balance at 9½d. per 10 units
3. Water heating:					
(a) Controlled hours ..	..	..	0·75d. per unit	0·9d. per unit	..
(b) Uncontrolled hours ..	..	..	..	..	..
(c) Night hours ..	..	..	..	..	..
(d) Sun heaters ..	..	..	..	..	..
4. Non all-electric house ..	..	..	..	..	..
5. All-electric house with fixed range and water heater ..	..	..	..	..	..
6. General supply including heat storage range and water heater ..	All units 1d. per unit	..	Lighting and heating 2½d. per unit Water heating 1d. per unit Range £24 per kVA per annum	..	..
7. Heat storage ranges:					
(a) Flat rate ..	..	..	..	..	..
(b) Controlled hours metered ..	..	..	..	..	..
(c) Meter rate ..	..	..	..	..	..
8. Night rate for power including heating ..	..	..	..	..	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	..	..	..	..	..
11. Fixed charge ..	..	..	6s. Net	..	10 per cent
12. Discount ..	..	..	Net	..	10 per cent

**APPENDIX I—*continued***

**TABLE II—*continued***

	Franklin E.P.B.	Central Waikato E.P.B.	Hamilton City Council	Rotorua Electric Supply	Taupo Borough Council
1. General supply including water heating	..	..	First 20 units at 4d. per unit Next 100 units at 1 2d. per unit Next 360 units at 0 7d. per unit Balance at 1 2d. per unit	..	First 120 units at 2s. 11d. per 10 units Next 180 units at 1s. 3d. per 10 units. Balance at 10d. per 10 units
2. General supply excluding water heating	First 32 units at 4d. per unit Balance at 1d. per unit	All units at 1 6d. per unit	First 50 units at 2s. 6d. per 10 units Balance at 1s. 4d. per 10 units	..	..
3. Water heating:	0 8d. per unit	0 8d. per unit	8d. per 10 units	..	..
(a) Controlled hours ..	..	..	..	..	..
(b) Uncontrolled hours ..	..	..	..	..	..
(c) Night hours only ..	..	..	..	..	..
(d) Sink heaters ..	..	..	..	..	..
4. Non all-electric house ..	..	..	..	..	..
5. All-electric house with fixed range and water heater ..	..	..	..	..	..
6. General supply including heat storage range and water heater ..	..	..	..	..	..
7. Heat storage ranges:	£25 per year	Existing installation 500 watt, £1 4 per year 700 watt, £1 8 12s. per year	..	..	..
(a) Flat rate ..	..	..	..	..	..
(b) Controlled hours metered ..	0 8d. per unit	New installations 1 6d. per unit 0 8d. per unit	0 7d. per unit 0 8d. per unit	1s. per 10 units	..
(c) Meter rate ..	..	..	..	..	..
8. Night rate for power including heating ..	..	..	..	..	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	..	..	..	10s.	..
11. Fixed charge ..	..	..	..	5s.	..
12. Discount ..	..	Not stated	4s. Net	10 per cent	10 per cent

**APPENDIX I—continued**

**TABLE II—continued**

	Cambridge E.P.B.	Te Awamutu E.P.B.	Waitomo E.P.B.	Wairere E.P.B.	King Country E.P.B.
1. General supply including water heating	First 24 units at 4d. per unit Next 300 units at 0·8d. per unit Balance at 2d. per unit	..	..	First 60 units at 4d. per unit Next 190 units at 1d. per unit Balance at 0·75d. per unit	..
2. General supply excluding water heating	..	First 10 units at 7d. per unit Balance at 1·4d. per unit	First 30 units at 3d. per unit Balance at 1·375d. per unit	..	First 10 units at 6s. 8d. per 10 units Next 40 units at 3s. 4d. per 10 units Balance at 1s. 8d. per 10 units
3. Water heating:					Supply under item (2)
(a) Controlled hours ..	..	0·7d. per unit	..	..	..
(b) Uncontrolled hours ..	..	1·25d. per unit	..	..	..
(c) Night hours only ..	..	..	..	..	..
(d) Sink heaters ..	..	..	..	..	..
4. Non all-electric house ..	..	..	..	First 30 units at 3d. per unit	..
5. All-electric house with fixed range and water heater ..	..	..	..	Next 320 units at 4d. per unit	..
6. General supply including heat storage range and water heater ..	..	..	..	Balance at 1·375d. per unit	..
7. Heat storage ranges:					
(a) Flat rate ..	..	Existing installation 500 watt £12 per year 700 watt £15 per year	£1 10s. per month	..	..
(b) Controlled hours metered ..	..	..	..	..	..
(c) Meter rate ..	..	New installations as per item (1) 0·8d. per unit	..	..	..
8. Night rate for power including heating ..	..	..	..	0·75d. per unit	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	..	..	..	5s., item (2)	..
11. Fixed charge ..	..	General rate less 5 per cent ..	..	8s. 6d., item (2) 12s. 6d., item 3 (a)	..
12. Discount ..	..	Remainder net ..	..	Net 5s.	2d. per cent – maximum 5s. Surcharge if not paid by due date

**APPENDIX I—continued**

**TABLE II—continued**

	Thames Valley E.P.B.	Thames Borough Council	Te Aroha Borough Council	Tauranga E.P.B.	Tauranga Borough Council
1. General supply including water heating	..	First 10 units at 6d. per unit Next 20 units at 1d. per unit Balance at 1d. per unit	..	All units at 0·9d. per unit	All units at 6d. per 10 units
2. General supply excluding water heating	..	..	1d. per unit	..	..
3. Water heating:	..	..	..	..	..
(a) Controlled hours	..	..	..	..	..
(b) Uncontrolled hours	..	..	..	..	..
(c) Night hours only	..	..	..	..	..
(d) Sink heaters	..	..	..	..	..
4. Non all-electric house	..	First 30 units at 2½d. per unit Balance at 1·6d. per unit	..	..	..
5. All-electric house with fixed range and water heater	..	First 30 units at 2½d. per unit Next 390 units at 0·9d. per unit Balance at 1·6d. per unit	..	..	..
6. General supply including heat storage range and water heater	..	..	..	..	..
7. Heat storage ranges:	..	..	..	..	..
(a) Flat rate	..	..	..	..	..
(b) Controlled hours metered	..	..	..	..	..
(c) Meter rate	..	..	..	..	..
8. Night rate for power including heating	..	..	..	..	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	6s. 3d.	5s.	..	..	..
11. Fixed charge ..	..	..	..	..	..
12. Discount ..	..	Net	1d. in each 1s.	6s. Net	7s. 6d. Net
			10 per cent		

**APPENDIX I—continued**

**TABLE II—continued**

	Bay of Plenty E.P.B.	Whakatane Borough Council	Poverty Bay E.P.B.	Wairoa E.P.B.	Wairoa Borough Council
1. General supply including water heating	All units at 0·8d. per unit	All units at 1s. 6d. per 10 units	..	..	..
2. General supply excluding water heating	Up to 36 units at 5d.	..	..	First 20 units at 4d. per unit Next 60 units at 3s. per 10 units Balance at 1s. 3d. per 10 units	First 40 units at 4d. per unit Balance at 1s. 3d. per 10 units
3. Water heating:					
(a) Controlled hours	..	8d. per 10 units	..	..	..
(b) Uncontrolled hours	..	..	..	..	..
(c) Night hours only	..	..	..	..	..
(d) Sink heaters	..	..	..	..	..
4. Non all-electric house	..	..	..	..	..
5. All-electric house with fixed range and water-heater	..	..	..	..	..
6. General supply including heat storage range and water heater	..	..	..	..	..
7. Heat storage ranges:					
(a) Flat rate	..	..	..	..	..
(b) Controlled hours metered	..	..	..	..	..
(c) Meter rate	..	..	..	..	..
8. Night rate for power including heating	..	..	..	..	..
9. Beach cottages	..	..	..	..	..
10. Minimum charge	..	5s. where no water heater	4s. plus 10s. water heater	£1 per quarter	10s. and £1 all electric plus 10 per cent 5s. water heater
11. Fixed charge	..	12s. 6d. with water heater	2s. 6d. Net	Net	10 per cent
12. Discount	..	..	..	..	..

**APPENDIX I**—*continued*

**TABLE II**—*continued*

	Hawke's Bay E.P.B.	Napier City Council	Central Hawke's Bay E.P.B.	Dannevirke E.P.B.	Taranaki E.P.B.
1. General supply including water heating	..	..	..	..	..
2. General supply excluding water heating	All units at 1s. 2d. per 10 units	First 6 units at 6d. per unit Next 60 units at 2d. per unit Balance at 1½d. per unit	..	First 30 units at 7d. per unit Balance at 1½d. per unit	First 10 units at 2s. 6d. per 10 units Balance at 1s. 1d. per 10 units
3. Water heating:					
(a) Controlled hours ..	7½d. per 10 units	0·5d. per unit all-electric 0·6d. per unit other	0·75d. per unit	0·75d. per unit	7d. per 10 units
(b) Uncontrolled hours ..	..	..	..	..	As item (2)
(c) Night hours only ..	..	..	..	..	..
(d) Sink heaters ..	..	..	..	..	..
4. Non all-electric house ..	..	..	..	..	..
5. All-electric house with fixed range and water heater	Item 3 (a) applicable to all-electric house	..	..	..	..
6. General supply including heat storage range and water heater	..	..	..	..	..
7. Heat storage ranges:					
(a) Flat rate ..	..	..	..	£1 10s. per month	..
(b) Controlled hours metered ..	..	..	..	..	..
(c) Meter rate ..	..	..	..	..	..
8. Night rate for power including heating	..	..	..	..	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	3s.	3s.	..	..	..
11. Fixed charge ..	..	5s.	..	..	..
12. Discount ..	..	Net	..	..	2s. Net

**APPENDIX I—continued**

**TABLE II—continued**

	New Plymouth City Council	Inglewood Borough Council	Waitara Borough Council	Stratford Borough Council	Kaponga Town Board
1. General supply including water heating	..	..	..	..	..
2. General supply excluding water heating	First 10 units at 3·6d. per unit Balance at 1·2d. per unit	First 10 units at 4·2d. per unit Next 60 units at 2·5d. per unit Balance at 1·5d. per unit	First 10 units at 8d. per unit Next 70 units at 3d. per unit Balance at 1½d. per unit	All units at 1s. 1d. per 10 units	All units at 1·8d. per unit
3. Water heating:					
(a) Controlled hours	0·6d. per unit	0·8d. per unit	0·8d. per unit	6d. per 10 units	0·75d. per unit
(b) Uncontrolled hours	0·6d. per unit	Available but not stated	0·8d. per unit	6d. per 10 units	0·75d. per unit
(c) Night hours only	..	..	..	..	..
(d) Sink heaters	..	..	..	..	..
4. Non all-electric house	..	..	..	..	..
5. All-electric house with fixed range and water heater	..	..	..	..	..
6. General supply including heat storage range and water heater	..	..	..	..	..
7. Heat storage ranges:					£5 10s. per quarter
(a) Flat rate	..	..	..	..	..
(b) Controlled hours metered	..	..	..	..	..
(c) Meier rate	..	..	..	..	..
8. Night rate for power including heating	..	..	..	..	..
9. Beach cottages	..	2s. 3d. without water heater	..	..	..
10. Minimum charge	..	5s. with water heater	..	..	..
11. Fixed charge	..	..	1s. 6d.	10s.	1s. 9d.
12. Discount	..	..	Net	7s. 6d.	Net
			5 per cent		

**APPENDIX I—continued**

**TABLE II—continued**

	Opunake E.P.B.	South Tarawaki E.P.B.	Ohakune Borough Council	Raetihi Borough Council	Wanganui-Rangitikei E.P.B.
1. General supply including water heating	..	All units at 7d. per 10 units	First 35 units at 6d. per unit Balance at 1d. per unit	All units at 2d. per unit	..
2. General supply excluding water heating	..	..	First 35 units at 6d. per unit Balance at 1½d. per unit	0.875d. per unit 0.875d. per unit	First 12 units at 6d. per unit Next 40 units at 3d. per unit Balance at 1d. per unit
3. Water heating:					
(a) Controlled hours	8d. per 10 units	..	..	..	1d. per unit
(b) Uncontrolled hours	As item (4) or (5)	..	..	..	..
(c) Night hours only	..	..	..	..	..
(d) Sink heaters	..	..	..	..	..
4. Non all-electric house	..	First 150 units at 1s. 6d. per 10 units	..	..	..
5. All-electric house with fixed range and water heater	Balance at 1s. 1d. per 10 units	..	..	..	..
6. General supply including heat storage range and water heater	All units at 1s. 1d. per 10 units	..	..	..	..
7. Heat storage ranges:					
(a) Flat rate	..	£1 10s. per month per 700 watts	..	..	..
(b) Controlled hours metered	..	..	..	..	..
(c) Meter rate for power	..	..	..	..	..
8. Night rate for including heating	..	..	..	..	..
9. Beach cottages	..	..	..	..	..
10. Minimum charge	..	..	..	..	..
11. Fixed charge	..	4s.	..	..	4s.
12. Discount	..	Nct	SurchARGE	..	Net
			7s. 6d.	..	..
			5 per cent rebate	..	..
			2½ per cent discount	..	..

**APPENDIX I—continued**

**TABLE II—continued**

	Tainapé Borough Council	Mangaweka Town Board	Manawatu-Orono E.P.B.	Palmerston North City Council	Horowhenua E.P.B.
1. General supply including water heating	..	..	..	..	..
2. General supply excluding water heating	All units at 1s. per 10 units	First 20 units at 7d. per unit Next 130 units at 3d. per unit Balance at 2d. per unit All plus 25 per cent less 5 per cent	First 10 units at 6d. per unit Balance at 1d. per unit	First 20 units at 3d. per unit Balance at 1d. per 10 units	First 15 units at 6d. per unit Balance at 1d. per unit
3. Water heating:					
(a) Controlled hours ..	9d. per 10 units	0·5d. per unit, plus 25 per cent less 5 per cent	0·7d. per unit	6d. per 10 units	0·8d. per unit
(b) Uncontrolled hours ..	9d. per 10 units	0·5d. per unit, plus 25 per cent less 5 per cent	..	6d. per 10 units	..
(c) Night hours only ..	..	..	..	..	..
(d) Sink heaters ..	..	..	..	..	..
4. Non-all-electric house ..	..	..	..	..	..
5. All-electric house with fixed range and water heater ..	..	..	..	..	..
6. General supply including heat storage, range and water heater ..	..	..	..	..	..
7. Heat storage ranges:					
(a) Flat rate ..	..	..	..	..	..
(b) Controlled hours metered ..	..	..	..	..	..
(c) Meter rate ..	..	..	..	..	..
8. Night rate for power including heating ..	..	..	..	..	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	..	..	..	..	..
11. Fired charge ..	..	5s. 6d.	..	5s.	..
12. Discount ..	..	..	..	Net	Net

**APPENDIX I—*continued***

**TABLE II—*continued***

	Taranaki E.P.B.	Wairarapa E.P.B.	Hutt Valley E.P. and Gas Board	Wellington City Corporation	Marlborough E.P.B.
1. General supply including water heating	..	..	All units at 10·6d. per unit	All units at 0·8d. per unit	..
2. General supply excluding water heating	First 12 units at 8d. per unit Next 30 units at 5d. per unit Balance at 1½d. per unit	First 18 units at 6d. per unit Balance at 1½d. per unit	..	..	All units at 1½d. per unit
3. Water heating:					
(a) Controlled hours ..	0·8d. per unit	First 18 units at 3d. per unit Balance at 8d. per unit	..	..	0·8d. per unit
(b) Uncontrolled hours ..	..	0·47d. per unit (approx.)	..	..	1½d. per unit
(c) Night hours only ..	..	..	..	..	£10 per kVA per annum
(d) Sink heaters ..	..	..	..	..	..
4. Non all-electric house ..	..	..	..	..	..
5. All-electric house with fixed range and water heater ..	..	..	..	..	..
6. General supply including heat storage range and water heater ..	..	..	..	..	..
7. Heat storage ranges:					
(a) Flat rate ..	..	£1 11s. per month	..	..	..
(b) Controlled hours ..	..	..	..	..	..
(c) Meter rate metered ..	0·8d. per unit	1½d. per unit	..	..	..
8. Night rate for power including heating ..	0·8d. per unit	..	..	..	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	..	6s.	..	..	..
11. Fixed charge ..	..	..	Rebate £ per cent on items (2)	3s. 4d.	..
12. Discount ..	..	Net	Net	Net	Net

**APPENDIX I—*continued***

**TABLE II—*continued***

	Nelson City Council	Wainea E.P.B.	Golden Bay E.P.B.	Buller E.P.B.	Murchison County Council
1. General supply including water heating	..	..	..	..	..
2. General supply excluding water heating	First 10 units at 6d. per unit Next 10 units at 1d. per unit Balance at 1d. per unit All plus 15 per cent	First 40 units at 5d. per unit Balance at 9d. per 10 units	First 20 units at 6d. per unit Balance at 13d. per unit	First 45 units at 4d. per unit Balance at 4d. per unit	First 100 units at 2s. per 10 units Balance at 1s. per 10 units
3. Water heating:					
(a) Controlled hours ..	1d. per unit plus 15 per cent	6d. per 100 watts plus 4d. per 10 units	0·8d. per unit	..	First 300 units at 6d. per 10 units Balance at 1s. per 10 units
(b) Uncontrolled hours ..	..	..	..	..	Balance at 1s. per 10 units
(c) Night hours only ..	..	..	..	..	..
(d) Sink heaters ..	..	..	..	..	..
4. Non all-electric house ..	..	..	..	..	..
5. All-electric house with fixed range and water heater ..	..	..	..	..	..
6. General supply including heat storage range and water heater ..	..	4s. per 100 watts per month	..	..	..
7. Heat storage ranges:					
(a) Flat rate ..	..	..	..	..	£15 per year
(b) Controlled hours ..	..	..	..	..	..
(c) Meter rate metered ..	1d. per unit plus 15 per cent	..	..	..	..
8. Night rate for power including heating ..	..	..	0·8d. per unit	..	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	2s. 6d.	..	..	..	..
11. Fixed charge ..	..	..	..	6s.	..
12. Discount ..	..	Net	Surcharge	..	..
				General rate less 5 per cent and 5 per cent water heating less 5 per cent	Surcharge if not paid by due date Net

**APPENDIX I—continued**

**TABLE II—continued**

	Grey E.P.B.	Amethyst Power Ltd.	Kanieri Electric Co Ltd.	Westland Power Ltd.	North Canterbury E.P.B.
1. General supply including water heating	..	..	..	..	..
2. General supply excluding water heating	First 30 units at 2d. per unit Balance at 1½d. per unit	Without range: First 20 units at 1s. per unit Balance at 3d. per unit With range: First 20 units at 1s. per unit Next 100 units at 3d. per unit Balance at 2d. per unit	Lighting - all units at 6d. Per unit Heating, cooking: all units at 1½d. per unit	First 15 units at 1s. per unit Next 85 units at 3d. per unit Next 100 units at 2½d. per unit Balance at 2d. per unit	First 12 units at 6d. per unit Next 48 units at 3d. per unit Balance at 1½d. per unit
3. Water heating:	..	..	..	..	..
(a) Controlled hours	½d. per unit	..	..	..	..
(b) Uncontrolled hours	..	..	..	..	..
(c) Night hours only	..	..	..	..	..
(d) Sink heaters	..	..	..	..	..
4. Non all-electric house	..	..	..	..	..
5. All-electric house with fixed range and water heater	..	..	..	..	..
6. General supply including heat storage range and water heater	..	..	..	..	..
7. Heat storage ranges:	..	..	..	..	..
(a) Flat rate	..	..	..	..	..
(b) Controlled hours metered	½d. per unit	..	..	..	..
(c) Meter rate	..	..	..	..	..
8. Night rate for power including heating	..	..	..	..	..
9. Beach cottages ..	6s. 8d.	..	..	..	..
10. Minimum charge ..	..	16s. 8d., item (2)	..	..	As per item (2) 6s., item (2)
11. Fixed charge ..	3s. 4d.	10s., items 3 (a) and (b)	7s.	15s.	£1 16s., item (3)
12. Discount ..	..	Net	2d. in the 1s.	..	Surcharge if not paid by due date

**APPENDIX I—continued**

**TABLE II—continued**

	Kaiapoi Borough Council	Rangiora Borough Council	Kaikoura County Council	Malvern E.P.B.	Springs-Ellesmere E.P.B.
1. General supply including water heating ..	..	..	Lighting and heating at 6d. per unit; Power, cooking, and water heating at 4d. per unit.	..	First 200 units at 1·3d. per unit Balance at 0·7d. per unit
2. General supply excluding water heating ..	First 20 units at 6d. per unit Next 30 units at 4d. per unit Next 30 units at 3d. per unit Next 50 units at 2d. per unit Balance at 0·8d. per unit	First 20 units at 6d. per unit Next 20 units at 3d. per unit Next 60 units at 2d. per unit Balance at 0·8d. per unit	First 60 units at 6d. per unit Next 180 units at 3d. per unit Balance at 1·2d. per unit	..	..
3. Water heating:					
(a) Controlled hours ..	First 100 units at 4d. per unit Balance at 1d. per unit	First 100 units at 4d. per unit Balance at 1d. per unit	..	..	..
(b) Uncontrolled hours ..	First 100 units at 0·75d. per unit First 100 units at 0·75d. per unit Balance at 0·6d. per unit	..	..	..	..
(c) Night hours only ..	..	..	..	..	..
(d) Sink heaters ..	..	..	..	..	..
5. All-electric house ..	..	..	..	..	..
6. General supply including heat storage range and water heater ..	..	..	..	..	..
7. Heat storage ranges:					
(a) Flat rate ..	..	..	..	£4 per quarter	..
(b) Controlled hours metered ..	..	..	..	..	..
(c) Meter rate ..	First 200 units at 1d. per unit Balance at 0·8d. per unit	..	..	..	..
8. Night rate for power including heating ..	..	..	..	..	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	4s. 3d., item (2)	7s. 6d.	..	7s 6d. per quarter	..
11. Fixed charge ..	3s., items (3), (a) and (b)	..	..	Items (3), (a) and (c)	..
12. Discount ..	2½ per cent ..	..	Rebate - 1s. 3d. in £1 all units	8d. item (2)	5s. Surcharge if not paid by due date
			Net		

**APPENDIX I—continued**

**TABLE II—continued**

	Riccarton Borough Council	Christchurch City Council	Lyttelton Borough Council	Heathcote County Council	Banks Peninsula E.P.B.
1. General supply including water heating	...	First 20 units at 4d. per unit Next 20 units at 3d. per unit Balance at 1-7d. per unit	...	First 30 units at 2d. per unit Next 350 units at 1d. per unit Balance at 3d. per unit	...
2. General supply excluding water heating	0-8d. per unit	0-6d. per unit 0-6d. per unit	0-6d. per unit	1d. per unit or 1d. per unit for approved type. 1d. per unit or 1d. per unit for approved type	All units at 2½d. per unit
3. Water Heating:	...	2d. per unit ...	...	...	
(a) Controlled hours	...	...	...	...	
(b) Uncontrolled hours	...	...	...	...	
(c) Night hours only	...	...	...	...	
(d) Sink heaters	...	...	...	...	
4. Non all-electric house	...	...	...	...	
5. All-electric house with fixed range and water heater	...	...	...	...	
6. General supply including heat storage range and water heater	...	...	...	...	
7. Heat storage ranges:	...	£1 15s. per month	...	£32 per annum	
(a) Flat rate	...	...	...	...	
(b) Controlled hours metered	...	In force but not stated	...	...	
(c) Meter rate	...	...	...	...	
8. Night rate for power including heating	...	...	...	...	
9. Beach cottages	...	5s., item (2) 6s., 9d. per 100 watts per annum, item (3) (a)	5s.	5s.	...
10. Minimum charge	...	...	...	...	
11. Fixed charge	16s. per cent	Surcharge	Net	10s. plus Less 5 per cent less 4 per cent	
12. Discount	...	...	•	Surcharge if not paid by due date	

**APPENDIX I—continued**

**TABLE II—continued**

	Ashburton E.P. and Gas Board	South Canterbury E.P.B.	Timaru City Council	Mackenzie County Council	Waiaiki E.P.B.
1. General supply including water heating	..	..	..	..	First 20 units at 6d. per unit Next 100 units at 1d. per unit Next 100 units at 1d. per unit Balance at 0·8d. per unit All read to nearest 10 units First 20 units at 6d. per unit Next 100 units at 1d. per unit Balance at 1d. per unit All read to nearest 10 units
2. General supply excluding water heating	First 22 units at 6d. per unit Next 132 units at 2d. per unit Balance at 1d. per unit	All units at 1½d. per unit or 8d. per unit for lighting only	All units at 0·9d. per unit	All units at 1½d. per unit	1½d. per unit
3. Water Heating:					
(a) Controlled hours ..	0·75d. per unit	1d. per unit	0·55d. per unit	1d. per unit	..
(b) Uncontrolled hours ..	1d. per unit	1d. per unit	..	1d. per unit	..
(c) Night hours only ..	..	7s. 6d. per month	..	..	..
(d) Sink heaters ..	..	..	..	..	..
4. Non all-electric house ..	..	..	..	..	..
5. All-electric house with fixed range and water heater ..	..	..	..	..	..
6. General supply including heat storage range and water heater	First 22 units at 6d. per unit Range 600 watt 20s. per month Range 750 watt 22s. per month Next 132 units at 2d. per unit Units over 154 at 1½d. per unit	Range 600 watt 20s. per month Range 750 watt 22s. per month Next 132 units at 2d. per unit Units over 154 at 1½d. per unit	..	..	As per item (1)
7. Heat Storage ranges:					
(a) Flat rate ..	..	..	..	..	..
(b) Controlled hours metered ..	..	..	..	..	..
(c) Meter rate ..	..	..	..	..	..
8. Night rate for power including heating ..	..	..	..	..	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	4s. to 6s. plus ..	..	..	..	5s. plus ..
11. Fixed charge ..	..	..	4s. 9d. 5 per cent	8s. Net	10s. with range 10s. with water heater
12. Discount ..	..	..	Surcharge if not paid by due date	..	..

**APPENDIX I**—*continued*

**TABLE II**—*continued*

	Otago E.P.B.	Dunedin City Corporation	Tevilot E.P.B.	Otago Central E.P.B.	Southland Electric Power Supply
1. General Supply including water heating ..					..
2. General supply excluding water heating	First 200 units at 1s. 11d. per 10 units Balance at 1s. 2d. per 10 units	First 20 units at 3d. per unit Balance at 0.725d. per unit Plus £1 per kW per month for water heater	First 40 units at 4d. per unit Next 80 units at 3d. per unit Next 480 units at 1d. per unit Balance at 4d. per unit	..	All units at 1.8d. per unit
3. Water heating;					
(a) Controlled hours ..	0.875d. per unit	..	..	..	£1 per kW or 10 units at 6d. per unit
(b) Uncontrolled hours ..	..	..	..	..	0.75d. per unit 1.2d. per unit
(c) Night hours only ..	..	..	..	..	..
(d) Sink heaters ..	..	..	..	..	..
4. Non all-electric house ..	..	..	..	..	..
5. All-electric house with fixed range and water heater	..	..	..	..	..
6. General supply including heat storage range and water heater	..	..	..	..	..
7. Heat storage ranges;					
(a) Flat rate ..	..	..	..	..	3s. 6d. per 100 watts
(b) Controlled hours metered ..	..	..	..	..	..
(c) Meter rate ..	0.5d. per unit 0.75d. per unit	..	..	..	3d. per unit
8. Night rate for power including heating ..	..	..	..	..	..
9. Beach cottages ..	..	..	..	..	..
10. Minimum charge ..	..	..	..	..	..
11. Fixed charge ..	9s. 6d.	..	..	3s. 4d. without range 5s. with range	10s. 7s. 6d.
12. Discount ..	..	..	Net	5 per cent	2d per cent

## APPENDIX I—*continued*

TABLE II—*continued*

	Invercargill City Council	Bluff Borough Council	Invercargill City Council	Bluff Borough Council
1. General supply including water heating	..	Lighting—7d. per unit Heating— First 15 units at 3½d. unit Balance at 1½d. unit Water heating—All units at 1½d. unit ..	6. General supply including heat storage range and water heater 7. Heat storage ranges: (a) Flat rate .. (b) Controlled hours .. (c) Metered .. 8. Night rate for power including heating .. 9. Beach cottages .. 10. Minimum charge .. 11. Fixed charge .. 12. Discount ..	Without water heater, all units at 0·65d. per unit .. 5s. each service, item (1) .. 25 per cent ..
2. General supply excluding water heating	First 24 units at 4·75d. per unit Next 36 units at 2d. per unit Balance at 0·9d. per unit	0·75d. per unit	..	..
3. Water heating:	(a) Controlled hours .. (b) Uncontrolled hours .. (c) Night hours only .. (d) Sink heaters ..	..	..	..
4. Non-all-electric house	..	..	..	..
5. All-electric house with fixed range and water heater	..	..	..	..

**APPENDIX I**

**TABLE III**  
**Commercial and Industrial Tariffs as at 1 April 1958 (per Month)**

	Bay of Islands E.P.B.	North Auckland E.P.B.	Whangarei Borough Council	Waitakere E.P.B.
1. Light, heat, and power ..	..	..	..	First 200 units at 4d. per unit Next 800 units at 3½d. per unit Next 19,000 units at 2½d. per unit Balance at 1d. per unit ..
2. Lighting ..	8d. per unit Minimum 6s.	6d. per unit Minimum 5s. 6d.	6½d. per unit	..
3. Heat and power ..	First 240 units at 5d. per unit Balance at 2½d. per unit Minimum 6s. and/or 3s. per h.p.	..	First 200 units at 4d. per unit Next 1,000 units at 3½d. per unit Balance at 2½d. per unit Minimum 5s. ..	..
4. Heating and cooking ..	..	..	..	..
5. Lighting, heating, and cooking ..	..	..	..	..
6. Lighting and heating ..	..	..	..	Alternative to tariff (1)
7. General power ..	..	..	..	£3 per kVA per quarter plus 2d. per unit
8. Large power ..	4d. per unit. Blocks A and B Balance of units at 1d. per unit Block A = H.P. × 10 Block B = M.D. × 60 Minimum £7 10s. or 3s. per h.p. 5s. 6d. per 80 watts	2½d. per unit Minimum 5s. ..	..	..
9. Under-verandah lighting ..	..	..	..	3d. per unit
10. Space heating ..	..	1½d. per unit 1d. per unit	Signs £2 flat charge Lights: 7s. per 75 watts	..
11. Water heating ..	..	..	1d. per unit	..
12. Cooking ..	..	..	..	..
13. Bakers' ovens ..	..	..	..	1d. per unit night rate ..
14. Brooders and incubators ..	..	..	..	..
15. Farm power ..	..	..	..	..
16. Milking sheds ..	..	..	Lighting 6½d. per unit – minimum Power 4d. per unit – minimum 7s. Tariff (3) ..	..
17. Religious or non-profit organisations, hospitals, schools, and institutions ..	..	..	2½d. per unit – minimum for schools 6s. ..	£4 5s. per kVA per quarter Plus 1d. per unit, day Plus 4d. per unit, night ..
18. Hospitals, schools, and institutions ..	2½d. per unit	..	..	..
19. Pumps ..	..	..	Field: From 11s. 8d. per ¼ h.p. Drainage: 2½d. per unit Minimum 6s. 8d. per h.p. 7s. plus tariff (7) ..	..
20. Welders ..	..	7s. 6d. plus tariff (3) 1d. per unit	7s. 6d. plus tariff (3) 1d. per unit net	5s. per kVA per month ..
21. Restricted night hours ..	..	..	Minimum £1 5s.	..
22. Intermittent and temporary ..	..	..	At tariffs (2) and (3) ..	£23 fee plus 4d. per unit From £2 1s. per annum per 40 watts
23. Street lighting ..	..	From £6 5s. per annum per 100 watts ..	..	Less 20 percent except where net Per unit ..
24. Discounts ..	..	..	Net ..	..
25. Meter readings ..	..	..	Read to nearest 10 Per unit ..	..

APPENDIX I: Table III—*continued*

	Auckland E.P.B.	Franklin E.P.B.	Central Walkato E.P.B.	Hamilton City Council
1. Light, heat, and power ..	First 200 units at 5·4d. per unit Balance at 2·4d. per unit; First 200 units at 5·4d. per unit Next 20 per lamp M.D. at 2·4d. per unit Balance 0·8d. per unit 5·4d. per unit; or first 13½ units per amp M.D. at 5·4d. per unit Balance units at 2d. per unit	First 200 units at 4d. per unit Next 200 units at 3d. per unit Balance at 1d. per unit Minimum 4s. or 4s. per h.p.	(a) 3·4d. per unit, minimum 4s.; or (b) First 750 units at 3·4d. per unit Balance at 1·8d. per unit	
2. Lighting .. ..	..	First 100 units at 8d. per unit Next 100 units at 6d. per unit Balance at 5·4d. per unit		
3. Heat and power .. ..	..	Minimum 5s.	Minimum 5s.	
4. Heating and cooking ..	..	First 300 units at 3·4d. per unit Next 200 units at 2·7d. per unit Balance at 2d. per unit		
5. Lighting, heating, and cooking ..	..	Minimum 5s.	Minimum 5s.	
6. Lighting and heating ..	..	..	..	
7. General power .. ..	..	..	..	
8. Large power .. ..	..	..	..	
9. Under-verandah lighting ..	..	£3 per kVA per quarter, plus £3 per kWh M.D. per quarter plus all units at 1d. per unit Minimum 12s. per quarter per h.p. connected	£3 per kVA per quarter, plus First 65,000 units per quarter at 1d. unit Balance units per quarter at 0·6d. unit	
10. Space heating .. ..	..	Minimum per quarter £200 As tariff 1 (a) or (b) or £7 6s. per 100 watts	4s. net per 80 watts Minimum 5s.	
11. Water heating .. ..	..	1d. per unit controlled	Continuous 1·2d. per unit Controlled 0·9d. per unit	
12. Cooking .. ..	..	..	..	
13. Bakers' ovens .. ..	..	1d. per unit Minimum 4s.	As per tariff 1 (b) 0·8d. per unit night rate Minimum £1·5s.	
14. Brooders and incubators .. ..	..	..	As per tariff (15)	
15. Farm power .. ..	..	From £5 18s. per annum per 1 h.p.; or Metered rate tariff (7) Minimum 4s. per h.p.	..	
16. Milking sheds .. ..	2s. plus 1·05d. per unit	..	..	
17. Religious or non-profit organisations .. ..	First 100 units at 4·2d. per unit Balance at 1·4d. per unit	..	..	
18. Hospitals, schools, and institutions .. ..	..	..	..	
19. Pumps .. ..	..	1d. per unit controlled Tariff (7) continuous	Tariff 1 (a)	
20. Weiders .. ..	10s. plus 0·8d. per unit in conjunction with general tariff	Minimum 10s.	10s. plus tariff (1) 0·8d. per unit Minimum £1·5s.	
21. Restricted night hours .. ..	2s. plus 1·2d. per unit	..	£2 fee plus 6s. per week flat plus 12s. removal fee	
22. Intermittent and temporary .. ..	..	..	..	
23. Street lighting .. ..	..	..	..	
24. Discounts .. ..	10 per cent	10 per cent	10 per cent except where net	
25. Meter readings .. ..	Read to nearest 10	Net Read to nearest 10	Per unit	10 per cent except where net Per unit

	Rotorua Electric Supply	Taupo Borough Council	Cambridge E.P.B.	Te Awamutu E.P.B.
1. Light, heat, and power	4·2d. per unit Minimum 5s.	First 120 units at 4d. per unit ..	6d. per unit ..	8d. per unit ..
2. Lighting ..	..	..	..	..
3. Heat and power ..	..	First 1,000 units at 3·6d. per unit Balance at 1·6d. per unit Minimum 5s.	..	..
4. Heating and cooking ..	..	..	..	..
5. Lighting, heating, and cooking ..	..	..	..	..
6. Lighting and heating ..	..	..	..	..
7. General power ..	..	..	..	..
8. Large power ..	..	..	..	..
9. Under-verandah lighting ..	..	..	..	..
10. Space heating ..	..	Controlled 0·8d. per unit Minimum 5s.	1d. per unit Minimum 5s.	3d. per unit Controlled 0·8d. per unit Continuous 1·25d. per unit
11. Water heating ..	..	..	..	1·6d. per unit
12. Cooking ..	..	..	..	0·8d. per unit Minimum £1 5s.
13. Bakers ovens ..	..	..	..	First 600 units at 4d. per unit Balance at 2d. per unit
14. Brooders and incubators ..	..	..	..	4d. per unit
15. Farm power ..	..	Tariffs (2) and (3)	..	..
16. Milking sheds ..	..	..	..	..
17. Religious or non-profit organisations ..	..	..	..	..
18. Hospitals, schools, and institutions ..	..	..	..	..
19. Pumps ..	..	..	..	..
20. Welders ..	..	..	..	..
21. Restricted night hours ..	..	1·4d. per unit Minimum 5s.	1d. per unit Minimum 5s.	£2 to £5 fee plus 4d. per unit Minimum £1 5s.
22. Intermittent and temporary ..	..	..	..	..
23. Street lighting ..	..	..	..	..
24. Discounts ..	..	10 per cent ..	..	From £4 per annum per 100 watts
25. Meter readings ..	..	Read to nearest 10 units	Net Per unit	Net Per unit

**APPENDIX I: Table III—*continued***

	Waitomo E.P.B.	Wairere E.P.B.	King Country E.P.B.	Thames Valley E.P.B.
1. Light, heat, and power	..	10s. plus 4d. per unit	11·2d. per unit Minimum 8s. 6d.	..
2. Lighting ..	6d. per unit	..	First 30 units per kVA, at 5·7d. unit Balance at 2·8d. per unit Minimum 11s. 3d.	..
3. Heat and power ..	..	..	..	..
4. Heating and cooking ..	..	..	..	..
5. Lighting, heating, and cooking ..	..	..	..	..
6. Lighting and heating ..	..	..	..	..
7. General power ..	..	First 500 units at 4d. per unit Balance at 2d. per unit Minimum 5s. per h.p. per month	5s. plus 3·6d. per unit	On peak: 15s. per h.p. plus Off peak: First 150 units at 3d. per unit Next 6,000 units at 2·8d. per unit Next 12,000 units at 1·6d. per unit Balance at 1d. per unit Minimum 20 units per h.p.
8. Large power ..	..	£3 per kVA per quarter plus 0·625d. per unit	All loads over 25 h.p. £1 10s. per kW M.D. plus all units at 14d. Tariff by arrangement	..
9. Under-verandah lighting ..	..	From 5s. per 100 watts ..	..	..
10. Space heating ..	..	Controlled: 4d. per unit Continuous: 1·4d. per unit Minimum: Continuous £1 17s. 6d. per kW	10s. plus 2d. per unit 10s. plus 0·75d. per unit 0·7d. per unit Minimum 12s. 3d.	..
11. Water heating ..	..	..	..	..
12. Cooking ..	..	..	First 60 units at 4d. per unit Balance at 1d. per unit ..	..
13. Bakers' ovens ..	..	..	£1 10s. per kW M.D. plus 1·4d. per unit	Tariff (21)
14. Brooders and incubators ..	..	With water heater: 1·1d. per unit Without water heater: Tariff (7)	Water heater: 0·75d. per unit	With freezer: First 45 units at 3d. per unit Next 660 units at 1·1d. per unit Balance at 1·9d. per unit Without freezer: First 45 units at 3d. per unit Next 420 units at 1·1d. per unit Balance at 1·9d. per unit
15. Farm power ..	..	..	..	..
16. Milking sheds ..	..	..	..	..
17. Religious or non-profit organisations ..	..	..	..	..
18. Hospitals, schools, and institutions ..	..	..	..	..
19. Pumps ..	..	..	..	Tariff (21) or tariff (15)
20. Welders ..	..	10s. plus 4d. per unit	2s. 6d. per kVA plus 3·6d. per unit	10s. up to 5 kVA plus 3s. per kVA over, plus all units at tariff (7)

21. Restricted night hours	0·75d. per unit	10s. plus 0·75d. per unit £5 fee plus £1 per month	..	..	£1 10s. fee plus all units at 3d. unit Minimum 20 units per h.p. From £4 4s. per annum per 100 watts Net
22. Intermittent and temporary	..	From £2 10s. per 100 watts	..	..	
23. Street lighting	..	..	..	..	
24. Discounts	..	Net	2½ per cent Maximum 5s. per month Read to nearest 10 units	..	
25. Meter readings	..	Per unit	..	Read to nearest 10 units	Per unit
1. Light, heat, and power	..	Thames Borough Council	..	Tauranga E.P.B.	Tauranga Borough Council
2. Lighting	..	First 200 units at 5d. per unit Balance at 2½d. per unit Minimum 5s.	..	6s. plus 2½d. per unit	..
3. Heat and power	..	..	..	..	3d. per unit
4. Heating and cooking	..	..	..	..	..
5. Lighting, heating, and cooking	..	..	..	..	..
6. Lighting and heating	..	..	..	..	..
7. General power	..	..	All units at 2d. per unit Minimum 5s.	..	..
8. Large power	..	..	First 240 units at 2·77d. per unit First 240 units at 2·43d. per unit Balance at 2·43d. per unit Minimum 10 units per h.p.	6s. plus 2½d. per unit controlled 6s. plus 4d. per unit uncontrolled Minimum 3s. 6d. per h.p.	1d. per unit
9. Under-verandah lighting	..	..	Next 9,800 units at 2½d. per unit Next 5,000 units at 2d. per unit Next 5,000 units at 1½d. per unit Next 5,000 units at 1¼d. per unit Balance at 1¼d. per unit Minimum 5s. plus 2s. 6d. per h.p. 7s. per light	..	..
10. Space heating	..	..	4s. 2d. per 100 watts	..	1½d. per unit controlled 3d. per unit uncontrolled
11. Water heating	..	..	..	..	..
12. Cooking	..	..	All units at 1d. per unit Minimum 5s.	..	..
13. Bakers ovens	..	..	..	..	..
14. Brooders and incubators	..	..	1·03d. per unit night rate	..	..
15. Farm power	..	..	..	..	..
16. Milking sheds	..	..	Up to 5 h.p. with water heater	..	..
17. Religious or non-profit organisations	..	..	6s. plus 1·6d. per unit Shearing motors, tariff (7)	..	..
18. Hospitals, schools, and institutions	..	..	..	..	..
19. Pumps	..	..	..	..	..
20. Welders	..	..	..	..	..
21. Restricted night hours	..	5s. plus tariff (1) or (8)	Tariff (6) Minimum 20 units per kVA	..	..
22. Intermittent and temporary	..	1d. per unit	..	..	£2 per annum plus units at tariffs (2), (7), or (10)
23. Street lighting	..	..	..	..	..
24. Discount	..	..	..	..	..
25. Meter readings	..	..	10 per cent Per unit	..	Net Read to nearest 10 units Per unit

APPENDIX I: Table III—*continued*

	Bay of Plenty E.P.B.	Whakatane Borough Council	Poverty Bay E.P.B.	Wairoa E.P.B.
1. Light, heat, and power	..	5s. plus First 1,500 units at 4½d. per unit Balance at 3d. per unit Minimum 5s.	..	..
2. Lighting	..	7d. per unit plus 20 per cent	First 100 units at 7d. per unit Next 300 units at 6d. per unit Balance at 4d. per unit Minimum 4s.	..
3. Heat and power	..	..	First 200 units at 3½d. per unit Next 200 units at 3d. per unit Balance at 2½d. per unit Minimum 4s.	..
4. Heating and cooking	..	..	..	First 20 units at 9½d. per unit Next 80 units at 3½d. per unit Balance at 2½d. per unit Minimum 6s. 8d.
5. Lighting, heating, and cooking	..	..	..	10s. plus First 33 units at 2½d. per unit Next 15,000 units at 2d. per unit Balance at 2½d. per unit Minimum 6s. 8d.
6. Lighting and heating	..	First 33 units per h.p. at 4d. per unit Balance at 3d. per unit plus 20 per cent	First 400 units at 3d. per unit Next 600 units at 2½d. per unit Next 15,000 units at 2d. per unit Balance at 2½d. per unit Minimum 4s. per h.p.	..
7. General power	..	..	..	£2. 18s. per kVA per quarter plus all units at 0·8d. per unit
8. Large power	..	£4. 15s. per kVA per quarter plus 1d. per unit per quarter net Minimum £60 per quarter net Cheese factories:	..	1d. per unit Minimum 10s. First 200 units at 2½d. per unit Balance at 1d. per unit Minimum £1. 10s.
9. Under-verandah lighting	..	..	7s. 6d. per light	..
10. Space heating	..	..	..	0·8d. per unit Minimum 6s. 8d.
11. Water heating	..	..	1·2d. per unit Minimum 5s.	..
12. Cooking	..	..	..	..

13. Bakers' ovens	..	..	10s. per kVA plus 4d. per unit net	1.2d. per unit night rate
14. Brooders and incubators	..	..	..	Minimum 5s.
15. Farm power	..	..	..	..
16. Milking sheds	..	..	Including water heating 10s. plus 14d. per unit net	4½d. per unit
17. Religious or non-profit organisations	..	..	Heating: off peak First 20 units per kW at 4d. per unit Balance at 1d. per unit plus 20 per cent	Minimum 4s. per h.p. dairy sheds Minimum 10s. per h.p. wool sheds Water heating: 0-8d. per unit Minimum 10s.
18. Hospitals, schools, and institutions	..	..	..	..
19. Pumps	..	..	Off peak: Each ½ h.p. £4 10s. per annum Continuous: £9 per annum or supply metered at 2d. per unit off peak	..
20. Welders	..	..	..	..
21. Restricted night hours	..	..	..	..
22. Intermittent and temporary	..	..	..	..
23. Street lighting	..	..	From £5 10s. per 100 watts per annum	..
24. Discount	..	..	Net	..
25. Meter readings	..	..	Per unit	..
				Net Read to nearest 10 units
				Net Read to nearest 10 units

*APPENDIX I: Table III—continued*

	Wairoa Borough Council	Hawke's Bay E.P.B.	Napier City Council	Central Hawke's Bay E.P.B.
1. Light, heat, and power	..	First 50 units at 6d. per unit Next 150 units at 4d. per unit Next 2,800 units at 3d. per unit Next 3,000 units at 2d. per unit Balance at 1d. per unit Minimum 6s.	..	..
2. Lighting	..	..	..	5s. plus all units at 7d. per unit
3. Heat and power	..	..	..	First 60 units at 4d. per unit
4. Heating and cooking	..	..	..	Balance at 2½d. per unit
5. Lighting, heating, and cooking	..	First 50 units at 5d. per unit Balance at 1·8d. per unit Minimum 5s. Plus 10 per cent	..	..
6. Lighting and heating	..	..	..	First 50 units at 6d. per unit Next 150 units at 4d. per unit Next 2,800 units at 3d. per unit Next 3,000 units at 2d. per unit Balance at 1d. per unit Minimum 5s.
7. General power	..	First 50 units at 4d. per unit Balance at 3d. per unit Minimum 3s. 4d. per h.p. plus 10 per cent Plus 10 per cent	..	All units at 4d. per unit
8. Large power	..	..	..	First 100 kVA M.D. per quarter, £3 15s. per kVA Over 100 kVA M.D. per quarter, £3 5s. per kVA Plus all units at 0·6d. per unit Minimum £1,250 per annum
9. Under-verandah lighting	..	..	..	1d. per unit controlled
10. Space heating	..	0·7d. per unit	..	1d. per unit
11. Water heating	..	..	..	..
		Minimum 5s. Plus 10 per cent		

12. Cooking ..	..	..	..	First 50 units at 6d. per unit Next 1,000 units at 3d. per unit Next 4,350 units at 1d. per unit Balance at 1d. per unit Minimum 6s.	10 units for 1s. 6d. continuous 10 units for 6d. controlled Minimum 5s.
13. Bakers' ovens ..	..	..	..	As per tariff (12)	..
14. Brooders and incubators ..	..	..	..	..	..
15. Farm power ..	..	..	..	Water heating: 0·75d. per unit	5s. plus all units at 4d. per unit
16. Milking sheds ..	..	..	..	..	..
17. Religious or non-profit organisations ..	..	..	..	..	..
18. Hospitals, schools, and institutions ..	..	..	..	..	..
19. Pumps ..	..	..	..	..	..
20. Welders ..	..	..	..	..	..
21. Restricted night hours ..	..	..	..	All units at 1d. per unit	..
22. Intermittent and temporary ..	..	..	..	£3 fee	..
23. Street lighting ..	..	..	..	..	..
24. Discant ..	..	..	..	Net	..
25. Meter readings ..	..	..	..	Per unit	Per unit
				Net	Per unit or per block of 10 units

APPENDIX I: Table III—*continued*

	Dannevirke E.P.B.	Taranaki E.P.B.	Inglewood Borough Council
1. Light, heat, and power ..	..	..	New Plymouth City Council First 50 units at 6d. per unit First 600 units at 3·6d. per unit Next 1,000 units at 2·4d. per unit Next 1,500 units at 1·8d. per unit Balance at 1·4d. per unit Minimum 3s.
2. Lighting ..	..	..	5s, plus First 60 units at 5·4d. per unit Next 700 units at 4d. per unit Balance at 3d. per unit
3. Heat and power ..	..	..	..
4. Heating and cooling ..	..	..	..
5. Lighting, heating, and cooking ..	..	..	..
6. Lighting and heating ..	..	..	..
7. General power ..	..	..	..
8. Large power ..	..	..	5s, plus all units at 3d. per unit 5s, plus First 480 units at 3·5d. per unit Next 39,320 units at 2·1d. per unit Balance at 1·3d. per unit
9. Under-verandah lighting ..	..	..	25s, plus First 480 units at 3·5d. per unit Next 39,320 units at 2·1d. per unit Balance at 1·3d. per unit
10. Space heating ..	..	..	25s, plus First 480 units at 3·5d. per unit Next 39,320 units at 2·1d. per unit Balance at 1·3d. per unit
11. Water heating ..	..	..	0·7d. per unit controlled Tariff (7) continuous ..
12. Cooking ..	..	..	0·7d. per unit controlled Tariff (7) continuous ..
13. Bakers' ovens ..	..	..	5s, plus 1·3d. per unit As per tariff (7)
14. Brooders and incubators ..	..	..	Water heating as per tariff (11)
15. Farm power ..	..	..	Water heating 0·75 per unit Minimum 10s.
16. Milking sheds ..	..	..	1s. 6d. plus Excluding water heating First 50 units at 3·6d. per unit Balance at 1·2d. per unit Minimum 1s. 6d.
17. Religious or non-profit organisations ..	..	..	As per tariff (11)
18. Hospitals, schools, and institutions ..	..	..	..
19. Pumps ..	..	..	2s. 6d. per kWh plus all units at tariff (8)
20. Walkers ..	..	..	..
21. Restricted night hours ..	..	..	As per tariff (13)
22. Intermittent and temporary ..	..	..	..
23. Street lighting ..	..	..	£3 fee plus tariff (7)
24. Discount ..	..	..	Net
25. Meter readings ..	..	..	Read to nearest 10 units Read to nearest 10 units

**APPENDIX I: Table III—*continued***

	Stratford Borough Council	Waltara Borough Council	Kaponga Town Board	Opunake E.P.B.
1. Light, heat, and power	10s. plus First 25 units at 6d. per unit Next 500 units at 4d. per unit Balance at 1½d. per unit	First 60 units at 6d. per unit Next 500 units at 4d. per unit Balance at 1½d. per unit	..	..
2. Lighting	..	..	..	..
3. Heat and power	..	..	..	..
4. Heating and cooking	..	..	..	..
5. Lighting, heating, and cooking	..	..	..	..
6. Lighting and heating	..	..	..	..
7. General power	10s. plus £1 5s. per kW M.D. plus 1d. per unit	First 40 units per ampere M.D. at 5d. per unit, balance at 2d. per unit Minimum 6s. 8d.	10s. plus 4·2d. per unit	4s. plus First 100 units at 4·8d. per unit Balance at 1·8d. per unit
8. Large power	..	..	As per tariff (7)	2s. 6d. to 4s. 6d. per ampere M.D. plus first 375 units at 4d. per unit decreasing to all over 15,000 units at 2d. per unit 5s. per 100 watts 1·1d. per unit controlled Ordinary tariff, continuous
9. Under-verandah lighting	..	..	3s. per light	..
10. Space heating	..	0·6d. per unit night rate	0·75d. per unit	..
11. Water heating	..	0·9d. per unit	Minimum 5s.	..
12. Cooking	..	0·6d. per unit night rate	..	..
13. Bakers' ovens	..	..	..	..
14. Brooders and incubators	..	..	As per tariff (1)	..
15. Farm power	..	..	..	..
16. Milking sheds	..	..	..	..
17. Religious or non-profit organisations	..	..	..	..
18. Hospitals, schools, and institutions	..	..	..	..
19. Pumps	..	..	..	Under 1 h.p., ordinary tariff Over 1 h.p., tariff (15) £1 3s. plus 3·8d. per unit
20. Welders	..	..	..	..
21. Restricted night hours	..	..	..	..
22. Intermittent and temporary	..	..	..	£1 15s. minimum plus units at tariff (1)
23. Street lighting	..	..	..	..
24. Discounts	..	..	..	Net
25. Meter readings	..	Net Read to nearest 10 units	..	Read to nearest 10 units

**APPENDIX I: Table III—continued**

	South Tarawaki E.P.B.	Ohakune Borough Council	Raetihi Borough Council	Wanganui-Rangitikei E.P.B.
1. Light, heat and power	5s. plus All units at 3-2d. per unit	"	"	First 50 units at 8d. per unit Next 250 units at 6d. per unit Balance at 3d. per unit Minimum 4s.
2. Lighting	"	"	"	"
3. Heat and power	"	"	"	"
4. Heating and cooking	"	"	"	"
5. Lighting, heating, and cooking	"	"	"	"
6. Lighting and heating	"	"	"	"
7. General power	"	"	All units at 3½d. per unit	First 120 units at 4d. per unit Next 320 units at 3d. per unit Balance at 2d. per unit Minimum 4s. £3.5s. per kW per quarter plus 0-6d. per unit
8. Large power	"	"	First 300 units at 5½d. per unit Next 700 units at 4d. per unit Balance at 2½d. per unit	"
9. Under-verandah lighting	"	"	"	"
10. Space heating	"	"	"	"
11. Water heating	"	"	"	"
12. Cooking	"	"	"	"
13. Bakers' ovens	"	"	0-9d. per unit night rate net	"
14. Brooders and incubators	"	"	"	"
15. Farm power	5s. plus 1-6d. per unit	5s. plus 1-6d. per unit	5s. plus 6d. per unit	Water heating at 1d. per unit Minimum 4s.
16. Milking sheds	"	"	"	"
17. Religious or non-profit organisations	"	"	"	"
18. Hospitals, schools, and institutions	"	"	"	"
19. Pumps	"	"	"	"
20. Welders	"	"	"	"
21. Restricted night hours	"	"	"	"
22. Intermittent and temporary	"	"	"	"
23. Street lighting	"	"	3s. per kVA plus tariff (7)	"
24. Discounts	"	"	"	"
25. Meter readings	"	Net Read to nearest 10 units	2½ per cent Per unit	Net Per unit

**APPENDIX I: Table III—*continued***

	Mangaweka Town Board	Taihape Borough Council	Manawatu-Oroua E.P.B.	Palmerston North City Council
1. Light, heat, and power	..	..	First 720 units at 4d. per unit Balance at 2½d. per unit	First 25 units at 4d. per unit Next 975 units at 3½d. per unit Balance at 2½d. per unit Minimum 5s. ..
2. Lighting	All units at 7d. per unit net Minimum 5s. ..	5s. 6d. plus 7·2d. per unit 5s. 6d. plus 2·1d. per unit	6d. per unit Minimum 2s. 6d. ..	6d. per unit Minimum 2s. 6d. ..
3. Heat and power	..	..	..	..
4. Heating and cooking	..	..	..	..
5. Lighting, heating, and cooking	..	..	..	..
6. Lighting and heating	..	..	..	..
7. General power	All units at 5d. per unit	..	First 240 units at 4d. per unit Balance at 2d. per unit Minimum 4s. 2d. ..	First 25 units at 4d. per unit Next 625 units at 3½d. per unit Balance at 1·7d. per unit Minimum 10s. ..
8. Large power	..	..	£3 5s. per kVA plus 0·6d. per unit	..
9. Under-verandah lighting	..	From £3 10s. per annum per 75 watts	15s. per light ..	15s. per light ..
10. Space heating	..	..	..	..
11. Water heating	First 100 units at 5d. per unit Balance at 4d. per unit	..	2d. per unit Minimum 2s. 6d. ..	..
12. Cooking	All units at 1d. per unit Net	0·9d. per unit	0·7d. per unit controlled 0·7d. per unit Minimum 2s. 6d. ..	0·7d. per unit controlled 1d. per unit As per tariff (7) Water heating: 0·7d. per unit con- trolled 2d. per unit Minimum 2s. 6d. As per tariff (17) ..
13. Bakers' ovens	..	..	..	..
14. Broilers and incubators	..	..	..	..
15. Farm power	..	..	..	..
16. Milling sheds	..	..	..	..
17. Religious or non-profit organisations	..	..	..	..
18. Hospitals, schools, and institutions	..	..	..	..
19. Pumps	..	£1 plus 7·2d. per unit	3s. per kVA plus tariff (7)	2s. 6d. per kVA plus tariff (7)
20. Welders	..	..	1d. per unit	0·7d. per unit
21. Restricted night hours	..	..	..	..
22. Intermittent and temporary	..	..	First 100 units at 4½d. per unit Balance at 3d. per unit Minimum £2 10s. for period con- nected From £3 12s. 6d. per annum per 100 c.p.u.	..
23. Street lighting	..	..	..	..
24. Discounts	1d. per unit except where net	..	Net	..
25. Meter readings	Per unit	Read to nearest 10 units	Per unit	Read to nearest 10 units

**APPENDIX I: Table III—*continued***

	Horowhenua E.P.B.	Tararua E.P.B.	Wairarapa E.P.B.	Hutt Valley Electric Power and Gas Board
1. Light, heat, and power	..	..	..	General: 6s. plus First 240 units at 6·5d. per unit Balance at 2·15d. per unit Where heat load 75 per cent of total load: First 240 units at 6·5d. per unit Balance at 1·15d. per unit
2. Lighting	..	First 100 units at 8d. per unit Balance at 5d. per unit Minimum 5s.	9d. per unit	..
3. Heat and power	..	..	..	First 60 units per kW at 8d. per unit Next 100 units per kW at 4d. per unit Balance at 2d. per unit Minimum 2 kW
4. Heating and cooking	..	..	..	First 50 units at 7½d. per unit Next 250 units at 6½d. per unit Balance at 5½d. per unit 11s. per kW plus First 120 units per kW at 2d. per unit Next 120 units per kW at 1½d. per unit Balance at 1d. per unit Minimum 2 kW
5. Lighting, heating, and cooking	..	..	..	Day rate: 6s. plus First 240 units at 6d. per unit Balance at 2·15d. per unit Night rate All units at 1d. per unit
6. Lighting and heating	..	..	..	..
7. General power	..	First 600 units at 4d. per unit Next 3,000 units at 2½d. per unit Balance at 1½d. per unit Minimum 2s. 6d. per h.p.	First 200 units at 2½d. per unit Balance at 2d. per unit	Under 5 h.p. 4d. per unit Over 5 h.p. First 20 units per amp M.D. at 4d. per unit Next 50 units per amp M.D. at 2d. per unit Balance at 1½d. per unit
8. Large power	..	£2 10s. 6d. per kVA per quarter plus £d. per unit Minimum £300 per annum	2½d. per unit	£3 10s. 6d. per kVA per quarter Minimum 1·05d. per unit per quarter

9. Under-verandah lighting	6s. 8d. per 100 watts		10s. per light	From £1 17s. 6d. per annum per 40 watts
10. Space heating	..	2d. per unit Minimum 5s.	1d. per unit controlled	..
11. Water heating	..	0-8d. per unit	0-68d. per unit night rate	First 100 units at 3½d. per unit Next 300 units at 3½d. per unit Balance at 2½d. per unit
12. Cooking	..	As per tariff (10)	1-0d. per unit day rate	..
13. Bakers' ovens	..	4s. per unit night rate	2d. per unit	1½d. per unit
14. Brooders and incubators	..	..	By arrangement	..
15. Farm power	..	4d. per unit	3s. 4d. per h.p. plus 5½d. per unit	1-06d. per unit
16. Milking sheds	..	Water heating: 0-8d. per unit	Water heating: As per Tariff (11)	Including schools
17. Religious or non-profit organisations	..	Including schools	Lighting at 9d. per unit	As per domestic tariffs
		First 100 units at 6d. per unit	Heating at 2d. per unit	
18. Hospitals, schools, and institutions	..	Excluding schools	By arrangement	School heating, controlled
		First 400 units at 6d. per unit		£d. per unit night rate
		Balance at 2d. per unit		1½d. per unit day rate
		Minimum £200 per annum		Minimum 6s.
19. Pumps	..	..	..	..
20. Welders	..	..	..	..
21. Restricted night hours	..	1d. per unit	3s. 4d. per kW plus 5½d. per unit	3s. per kWh plus tariff
		Minimum £1	..	Minimum 6s.
		£64 fee plus 4d. per unit	..	1½d. per unit
22. Intermittent and temporary	..	..	..	1d. per unit
23. Street lighting	..	..	£2 fee plus 7s. 6d. per week	Temporary: 10s. fee plus tariff (1)
24. Discounts	..	Net	..	Builders: £5 fee plus tariff (1)
25. Meter readings	..	Per unit	Net	From £2 7s. per annum per 75 watts
			Per unit	Net
				Read to nearest 10 units

## APPENDIX I: Table III—*continued*

	Wellington City Council	Marlborough E.P.B.	Nelson City Council	Wainea E.P.B.
1. Light, heat, and power	First 300 units at 4d. per unit Balance at 3d. per unit	5d. per unit Minimum 3s. 4d.	First 50 units at 5d. per unit Next 100 units at 4d. per unit Over 150 units at 3d. per unit Minimum 2s. 6d. all plus 25 per cent	First 3 units per point at 8d. per unit Balance at 4d. per unit
2. Lighting	..	..	First 1,500 units at 2½d. per unit Next 1,500 units at 1½d. per unit Over 3,000 units at 1d. per unit Minimum 2s. 6d.	..
3. Heat and power	3d. per unit	..	All plus 25 per cent	4d. per unit Minimum 7s. 6d.
4. Heating and cooking	..	..	..	..
5. Lighting, heating, and cooking	..	All units at 3d. per unit Minimum 3s. 4d.	First 20 units per h.p. at 5d. per unit Balance at 2½d. per unit Minimum 7s. 6d.	..
6. Lighting, heating, and heating	..	£3 15s. per kVA M.D. per quarter plus 0·6d. per unit	£2 50s. per quarter plus 0·6d. per unit	..
7. General power	..	Minimum £60 per quarter	Minimum £150 per annum	..
8. Large power	..	..	Sigs: £8 10s. per annum per ½ kVA	..
9. Under-verandah lighting	..	..	1d. per unit—controlled	..
10. Space heating	..	2½d. per unit Minimum 3s. 4d.	First 60 units per kW M.D. at 3½d. Balance at 1d. per unit Minimum 7s. 6d.	..
11. Water heating	..	0·8d. per unit controlled 0·5d. per unit continuous Minimum 3s. 4d.	First 160 units at 2½d. per unit Over 160 units at 1d. per unit Minimum 2s. 6d., all plus 25 per cent	..
12. Cooking	..	..	1d. per unit night rate Plus 25 per cent	..
13. Bakers' ovens	..	0·7d. per unit night rate	2d. per unit Minimum 7s. 6d.	..
14. Brooders and incubators	..	4d. per unit day rate	First 20 units at 5d. per unit Balance at 2½d. per unit Minimum 7s. 6d.	..
15. Farm power	..	..	..	..
16. Milking sheds	..	..	..	Excluding Hospitals
17. Religious or non-profit organisations	..	As per tariff (7)	Light and heat First 30 units at 3d. per unit Balance at 2d. per unit Cooking; As per tariff (12)	..
18. Hospitals, schools, and institutions	..	As per tariff (7)	Minimum 2s. 6d.	..
19. Pumps	..	..	..	..
20. Welders	..	..	..	..
21. Restricted night hours	..	0·7d. per unit	1d. per unit, minimum 7s. 6d.	..
22. Intermittent and temporary	..	..	All plus 25 per cent.	£2 fee plus tariff (7)

23. Street lighting ..	..	..	..	..	£2 2s. 9d. per annum per 100 C.P. lamp or alternatively at 3d. per unit	From £3 5s. per annum per 60 C.P.
24. Discounts ..	..	Net Per unit	..	..	Surchage Per unit	..
25. Meter readings ..	..	..	..	..	Grey E.P.B.	Murchison County Council
					Buller E.P.B.	10s. plus
1. Light, heat, and power ..	..	..	..	First 50 units at 6d. per unit	First 50 units at 3d. per unit	First 50 units at 3d. per unit
2. Lighting ..	..	6d. per unit Minimum 5s.	..	Balance at 3d. per unit	Balance at 1·2d. per unit	Balance at 1·2d. per unit
3. Heat and power ..	..	..	..	..	..	..
4. Heating and cooking ..	..	..	..	..	..	..
5. Lighting, heating and cooking ..	..	..	..	..	..	..
6. Lighting and heating ..	..	..	..	..	..	..
7. General power ..	..	First 100 units at 5d. per unit Next 340 units at 4d. per unit Minimum 2s. 6d. per h.p.	..	First 25 units per h.p. at 3d. per unit	5s. per h.p. plus First 40 units at 3d. per unit	3s. 4d. plus
8. Large power ..	..	..	..	Balance at 2d. per unit	Balance at 2·4d. per unit	First 50 units at 3d. per unit
9. Under-verandah lighting ..	..	..	..	Minimum 4s. per h.p.	..	Next 2,000 units at 2d. per unit
10. Space heating ..	..	..	..	..	..	Balance at 1d. per unit
11. Water heating ..	..	..	..	..	..	By agreement
12. Cooking ..	..	..	..	..	..	..
13. Bakers' ovens ..	..	..	..	..	..	3s. 4d. per 100 watts
14. Brooders and incubators ..	..	..	..	..	..	Minimum 6s. 8d.
15. Farm Power ..	..	..	..	..	..	4d. per unit
16. Milking sheds ..	..	..	..	..	..	Minimum 6s. 8d.
17. Religious or non-profit organisations ..	..	..	..	..	..	..
18. Hospitals, schools, and institutions ..	..	..	..	..	..	First 4,000 units at 4d. per unit
19. Pumps ..	..	..	..	..	..	Balance at 2d. per unit
20. Welders ..	..	..	..	..	..	1½d. per unit
21. Restricted night hours ..	..	..	..	..	..	Minimum 6s. 8d. per kVA
22. Intermediate and temporary ..	..	..	..	..	..	£3 fee plus tariff
23. Street lighting ..	..	..	..	..	..	From £5 5s. per annum per 100 watts
24. Discounts ..	..	..	..	..	..	5 per cent except where net
25. Meter readings ..	..	..	..	..	..	Per unit
				..	..	Net Per unit
				..	..	Read to nearest 10 units

APPENDIX I: Table III—*continued*

	Amethyst Power Ltd.	Kanieri Electric Ltd.	Westland Power Ltd.	North Canterbury E.P.B.
1. Light, heat, and power	First 40 units at 1s. per unit Next 80 units at 9d. per unit Balance at 3d. per unit Minimum £1	...	...	40 units per kW lighting M.D. plus 6d. per unit
2. Lighting	...	...	...	Next 160 units at 3d. per unit Balance at 1½d. per unit Minimum 6s.
3. Heat and power	...	...	...	...
4. Heating and cooking	...	...	...	...
5. Lighting, heating, and cooking	...	...	...	...
6. Lighting and heating	...	...	...	...
7. General power	12s. per h.p. plus 3d. per unit	...	...	First 20 units at 6d. per unit Balance at 3d. per unit Minimum £1
8. Large power	12s. per h.p. up to 10 h.p. plus 5s. per h.p. over 10 h.p. 3d. per unit	...	...	First 100 units at 5d. per unit Balance at 3d. per unit Minimum 6s. - 8d. per h.p.
9. Under-verandah lighting	3d. per unit	...	...	First 20 units at 6d. per unit Balance at 3d. per unit Minimum 6s.
10. Space heating	Minimum 13s. 4d.	...	...	...
11. Water heating	0·75d. per unit controlled	...	...	...
12. Cooking	1·0d. per unit continuous	...	...	...
13. Bakers' ovens	Minimum 10s.	...	...	...
14. Brooders and incubators	As per tariff (10)	...	...	...
15. Farm power	...	...	...	...
16. Milking sheds	...	...	...	...
17. Religious or non-profit organisations	3d. per unit	...	...	Including schools
18. Hospitals, schools, and institutions	...	...	...	First 12 units at 6d. per unit
19. Pumps	...	...	...	Next 48 units at 3d. per unit Balance at 1½d. per unit Minimum 6s.
20. Welders . .	3s. 4d. per kVA plus tariff	...	...	...
21. Restricted night hours	...	...	...	1½d. per unit, controlled
22. Intermittent and temporary . .	...	...	...	5s. per kVA plus tariff (1)
				0·7d. per unit
				Minimum 6s.
				As per tariff (7)
				Minimum 10s.
				£1. 10s. minimum

23. Street lighting	..	..	..	..	..	..	..
24. Discounts	..	..	Subject to discount not stated	..	..	..	..
25. Meter readings	..	..	Per unit	..	..	..	..
1. Light, heat, and power	..	..	Rangiora Borough Council	Kaikoura County Council	Kaiapoi Borough Council	Malvern E.P.B.	
2. Lighting ..	..	..					
3. Heat and power ..	..	..					
4. Heating and cooking ..	..	..					
5. Lighting, heating, and cooking ..	..	..					
6. Lighting and heating ..	..	..					
7. General power ..	..	..					
8. Large power ..	..	..					
9. Under-verandah lighting ..	..	..					
10. Space heating ..	..	..					
11. Water heating ..	..	..					
12. Cooking ..	..	..					
13. Baker's ovens ..	..	..					
14. Brooders and incubators ..	..	..					
15. Farm power ..	..	..					
16. Milking sheds ..	..	..					
17. Religious or non-profit organisations ..	..	..					
18. Hospitals, schools, and institutions ..	..	..					
19. Pumps ..	..	..					
20. Welders ..	..	..					
21. Restricted night hours ..	..	..					
22. Intermittent and temporary ..	..	..					
23. Street lighting ..	..	..					
24. Discount readings ..	..	..					
25. Meter readings ..	..	..					
4d. per unit	..	..	..	..	..	..	..
Minimum 3s. 4d. per light Net Per unit	..	..	..	..	..	..	..
Surchage Per unit	..	..	..	..	..	..	..
6s. 8d. plus	..	..	..	..	..	..	..
First 120 units at 5d. per unit	..	..	..	..	..	..	..
Next 120 units at 4d. per unit	..	..	..	..	..	..	..
Next 120 units at 3d. per unit	..	..	..	..	..	..	..
Balance at 2d. per unit	..	..	..	..	..	..	..
Minimum 6s. 8d.	..	..	..	..	..	..	..
First 120 units at 5d. per unit	..	..	..	..	..	..	..
Next 120 units at 4d. per unit	..	..	..	..	..	..	..
Next 240 units at 3d. per unit	..	..	..	..	..	..	..
Balance at 1d. per unit	..	..	..	..	..	..	..
Minimum 6s. 8d.	..	..	..	..	..	..	..
Up to 20 h.p.	..	..	..	..	..	..	..
First 80 units at 3d. per unit	..	..	..	..	..	..	..
Next 120 units at 2½d. per unit	..	..	..	..	..	..	..
Balance at 1d. per unit	..	..	..	..	..	..	..
Minimum 6s. 8d.	..	..	..	..	..	..	..
Over 20 h.p. by special contract	..	..	..	..	..	..	..
5s. per 100 watts	..	..	..	..	..	..	..
First 100 units at 0·75d. per unit	..	..	..	..	..	..	..
Balance at 0·6d. per unit	..	..	..	..	..	..	..
Minimum 3s. 6d.	..	..	..	..	..	..	..
As per tariff (10)	..	..	..	..	..	..	..
6½d. per unit	..	..	..	..	..	..	..
First 50 units per h.p. connected at 3d. per unit, balance of units at 1d. per unit	..	..	..	..	..	..	..
Minimum 8s. per h.p.	..	..	..	..	..	..	..
1d. per unit, controlled	..	..	..	..	..	..	..
First 150 units per kW at 1½d. unit	..	..	..	..	..	..	..
Balance at 0·6d. per unit	..	..	..	..	..	..	..
4d. per unit	..	..	..	..	..	..	..
2d. per unit - high-rate units	..	..	..	..	..	..	..
0·6d. per unit - low-rate units	..	..	..	..	..	..	..
4d. per unit	..	..	..	..	..	..	..
2d. per unit	..	..	..	..	..	..	..
Including schools	..	..	..	..	..	..	..
Heating tariff 1½d. per unit controlled	..	..	..	..	..	..	..
2s. per kVA plus tariff (1)	..	..	..	..	..	..	..
7s. 6d. per kVA per quarter	..	..	..	..	..	..	..
Surcharge	..	..	..	..	..	..	..
2½ per cent	..	..	..	..	..	..	..
Per unit	..	..	..	..	..	..	..
Net	..	..	..	..	..	..	..
Per unit	..	..	..	..	..	..	..

APPENDIX I: Table III—*continued*

	Spring-Ellancore E.P.B.	Riccarton Borough Council	Christchurch City Council	Lyttelton Borough Council	
1. Light, heat, and power	7s. 6d. plus First 180 units at 4d. per unit Balance at 2d. per unit	First 60 units per kW lighting M.D. at 6d. per unit Balance units at 2½d. per unit Minimum 5s.	First 60 units per kW M.D. at 6d. per unit Balance units at 2½d. per unit Minimum 7s. 6d.	..	
2. Lighting	..	..	..	5d. per unit Minimum 3s.	
3. Heat and power	..	..	..	..	
4. Heating and cooking	..	..	..	..	
5. Lighting, heating, and cooking	..	..	..	..	
6. Lighting and heating	..	..	..	..	
7. General power	..	Up to 5 kW or h.p., as per tariff (1) Over 5 kW or h.p. 5s. per kVA plus First 180 units at 4d. per unit Balance at 2d. per unit Minimum 10s. Over 30 kVA demand at £3 12s. 6d. per kVA per quarter plus 1d. per unit	2½d. per unit Minimum 5s. per h.p. First 60 units per kVA M.D. at 2½d. per unit Balance at 1½d. per unit Minimum 2s. 3d. per h.p. or 6s.	First 60 units per kVA M.D. at 2½d. per unit Balance at 1½d. per unit Minimum 3s. 9d. per h.p.	2½d. per unit Minimum 3s. 9d. per h.p.
8. Large power	..	..	£4 13s. per kW M.D. plus 0·6d. per unit	First 60 units per kVA M.D. at 2½d. per unit Balance at 1½d. per unit Including lighting	
9. Under-verandah lighting	..	..	..	2½d. per unit Minimum 3s. per kVA	
10. Space heating	..	..	2d. per unit, controlled	2½d. per unit 4d. per unit continuous 4d. per unit night hours Minimum 3s. per phase	
11. Water heating	..	0·7d. per unit	1d. per unit, controlled Minimum 6s. 9d. per annum per 100 watts	Controlled: 1d. per unit Continuous: as per tariff (12) First 60 units per kW M.D. at 2½d. per unit Balance at 1½d. per unit 0·75d. per unit, night rate	
12. Cooking	..	..	..	..	
13. Bakers' ovens	..	..	First 60 units per kW M.D. at 2½d. per unit Balance at 1½d. per unit Minimum 3s.	0·6d. per unit	

14. Brooders and incubators	..	..	..	..
15. Farm power	..	..	..	..
16. Milking sheds	..	..	..	..
17. Religious or non-profit organisation	..	..	..	..
18. Hospitals, schools, and institutions	..	..	..	..
19. Pumps	..	..	..	..
20. Welders	..	..	..	..
21. Restricted night hours	..	..	..	..
22. Intermittent and temporary	..	..	..	..
23. Street lighting	..	..	..	..
24. Discounts	..	..	..	..
25. Meter readings	..	..	..	..

Net  
Per unit

7s. 6d. per  $\frac{1}{2}$  h.p. plus 1d. per unit  
Water heating: 1d. per unit  
Lighting:  
Assessed units at 6d. per unit  
Balance at 2½d. per unit  
First 40 units per kW M.D. at  
4d. per unit  
Balance at 1d. per unit  
Water heating controlled  
Water heating night rate 2d. per  
unit  
£1 10s. per kVA M.D. plus ¾d. per  
unit  
2s. per kVA plus tariff (7)

For load over 150 kW all units at  
2½d. per unit  
Minimum 3s. per h.p.  
6d. per unit net  
£18 fee single-phase per 9 months  
£10 fee three-phase per 9 months  
Surcharge  
Per unit

APPENDIX I: Table III—*continued*

	Heathcote County Council	Banks Peninsula E.P.B.	Ashburton E.P. and Gas Board	South Canterbury E.P.B.
1. Light, heat, and power	..	10s. plus 2s. 6d. per h.p. or per kW	..	£1 plus 2½d. per unit
2. Lighting	..	6d. per unit Minimum 5s.	First 80 units at 8d. per unit Next 150 units at 7d. per unit Balance at 6d. per unit; or First 50 units per kW connected at 8d. per unit Next 100 units per kW connected at 4d. per unit Balance units per kW connected at 2d. per unit Minimum 4s. urban, 6s. rural	..
3. Heat and power	..	..	..	..
4. Heating and cooking	..	..	..	..
5. Lighting, heating, and cooking	..	..	..	..
6. Lighting and heating	..	..	..	..
7. General power	..	2d. per unit Minimum 5s.	First 180 units at 5d. per unit Next 180 units at 4d. per unit Balance at 2½d. per unit Minimum 6s. per h.p. up to 2 h.p. 5s. per h.p. for balance	..
8. Large power	..	M.D. units at 2½d. per unit Balance at 1 d. per unit	First 50 kVA per quarter at £3 13s. per kVA Next 200 kVA per quarter at £3 10s. per kVA Balance at £2 15s. per kVA Plus First 20 units per kVA per quarter at 1d. per unit Next 200 units per kVA M.D. Per Quarter at 0·6d. per unit Balance units per kVA M.D. per quarter at 0·3d. per unit 8s. per light	£3 per kVA M.D. per quarter plus Ad. per unit Minimum £150 per annum
9. Under-verandah lighting	..	On application	..	..



APPENDIX I: Table III—*continued*

	Timaru City Council	Mackenzie County Council	Waitaki E.P.B.	Otago E.P.B.
1. Light, heat, and power	.. First 40 units per kVA M.D. at 7d. unit Balance at 1½d. per unit Minimum 3s. 6d.	£1 plus 2½d. per unit	..	First 150 units at 7d. per unit Next 350 units at 3d. per unit Balance at 2½d. per unit Minimum 6s. 8d. per kVA
2. Lighting ..	..	..	First 1,000 units at 6d. per unit Balance at 3d. per unit Minimum 5s.	..
3. Heat and power ..	..	..	..	..
4. Heating and cooking ..	..	..	..	..
5. Lighting, heating, and cooking ..	..	..	..	..
6. Lighting and heating ..	..	..	..	..
7. General power ..	..	..	..	..
8. Large power ..	..	..	..	..
9. Under-verandah lighting ..	..	..	..	(a) All units at 2½d. per unit
10. Space heating ..	..	..	..	(b) All units at 1½d. per unit
11. Water heating ..	..	..	..	(c) All units at 0·875d. per unit
12. Cooking ..	..	..	..	1½d. per unit controlled
13. Bakers' ovens ..	..	..	..	..
14. Brooders and incubators ..	..	..	..	..
15. Farm power ..	..	..	..	..
16. Milking sheds ..	..	..	..	..
17. Religious or non-profit organisations ..	..	..	..	..
18. Hospitals, schools, and institutions ..	..	..	..	..
19. Pumps ..	..	..	..	..
20. Welders ..	..	..	..	..
21. Restricted night hours ..	..	..	..	..
22. Intermittent and temporary ..	..	..	..	..
23. Street lighting ..	..	..	..	..
24. Discounts ..	..	..	..	..
25. Meter readings ..	..	..	..	Net Read to nearest 10 units
		5 per cent Per unit	Net Per unit	Capital charges paid by board Watts Net

**APPENDIX I: Table III—*continued***

	Dunedin City Council	Teviot E.P.B.	Otago Central E.P.B.
1. Light, heat, and power .. ..	..	Sawmills and joinery factories: 2s. 6d. per h.p. plus 2d. per unit Garages and service stations: 5s. plus First 10 units at 5d. per unit Next 20 units at 3d. per unit Balance at 1d. per unit ..	6/- plus all units at 1·8d. per unit Minimum charge in excess of 5 kW demand: Industrial: 5s. per kW of excess Pumping: 10s. per kW of excess ..
2. Lighting .. ..	..	First 50 units per kVA M.D. at 6·6d. per unit Balance at 1·1d. per unit Minimum 5s. Up to 5 kVA: First 100 units at 5d. per unit Balance at 1d. per unit Over 5 kVA: First 24 units per kVA M.D. at 5d. per unit Next 40 units per kVA M.D. at 1d. per unit Balance at 4d. Minimum 5s. ..	..
3. Heat and power .. ..	..	..	Fish shops and tearooms: 5s. plus 5s. First 10 units at 6d. per unit Next 20 units at 3d. per unit Balance at 2d. per unit Hotels, hospitals, bakeries: 10s. plus first 10 units at 6d. per unit Next 20 units at 3d. per unit Balance at 1d. per unit ..
4. Heating and cooking .. ..	..	..	Shops and offices: 5s. plus first 10 units at 6d. per unit Next 20 units at 3d. per unit Balance at 1d. per unit ..
5. Lighting, heating, and cooking .. ..	..	..	Cool stores: 1s. 8d. per h.p. plus 1d. per unit ..
6. Lighting and heating .. ..	..	..	..
7. General power .. ..	..	..	..
8. Large power .. ..	..	..	..
9. Under-verandah lighting .. ..	..	1·1d. per unit — minimum 5s.	..

**APPENDIX I: Table III—*continued***

	Dunedin City Council	Teviot E.P.B.	Otago Central E.P.B.
10. Space heating .. .. ..	£1 per kW controlled ..	£1 per kW flat rate ..	
11. Water heating .. .. ..	£1 per kW plus tariff (3) continuous ..	0·6d. per unit, metered rate ..	
12. Cooking .. .. ..	.. .. ..	.. .. ..	
13. Bakers ovens .. .. ..	.. .. ..	0·75d. per unit ..	
14. Brooders and incubators .. .. ..	.. .. ..	.. .. ..	
15. Farm Power .. .. ..	.. .. ..	.. .. ..	
16. Milking sheds .. .. ..	.. .. ..	.. .. ..	
17. Religious or non-profit organisations .. .. ..	Lighting: First 30 units per kVA M.D. at 5½d. per unit Balance at 1·1d. per unit Heating and power tariff (7) during night hours Minimum 5s.	Special rates on application	
18. Hospitals, schools, and institutions .. .. ..	.. .. ..	1s. 8d. per h.p. plus ½d. per unit ..	
19. Pumps .. .. ..	.. .. ..	.. .. ..	
20. Weavers .. .. ..	.. .. ..	.. .. ..	
21. Restricted night hours .. .. ..	.. .. ..	0·66d. per unit — minimum £2 ..	
22. Intermittent and temporary .. .. ..	.. .. ..	.. .. ..	
23. Street lighting .. .. ..	.. .. ..	.. .. ..	
24. Discounts .. .. ..	.. .. ..	Net All rates plus 2½ per cent Discount 5 per cent Per unit	2½ per cent
25. Meter readings .. .. ..	.. .. ..	.. .. ..	Read to nearest 10 units

APPENDIX I: Table III—*continued*

		Southland E.P. Supply	Invercargill City Council	Bluff Borough Council
1. Light, heat, and power ..	..	10s. plus 2½d. per unit Minimum 2s. per h.p.	6s. 6d. plus First 60 units at 5d. per unit Next 1,440 units at 3½d. per unit Next 1,500 units at 2d. per unit Balance at 1·7d. per unit	..
2. Lighting ..	..	..	..	First 300 units at 8d. per unit Balance at 7d. per unit Minimum 3s.
3. Heat and power ..	..	..	..	..
4. Heating and cooking ..	..	..	..	..
5. Lighting, heating, and cooking ..	..	..	..	..
6. Lighting, heating, and heating ..	..	..	..	..
7. General power ..	..	..	..	..
8. Large power ..	..	..	£1 per kW M.D. plus 0·8d. per unit £1 per kW M.D. plus 0·7d. per unit Units at 0·8d. for L.T. supply Units at 0·7d. for H.T. supply Minimum £50	..
9. Under-verandah lighting ..	..	..	0·75d. per unit controlled	..
10. Space heating ..	..	..	0·75d. per unit controlled	..
11. Water heating ..	..	..	0·75d. per unit controlled 1·2d. per unit continuous	..
12. Cooking ..	..	..	1·2d per unit controlled	..
13. Bakers' ovens ..	..	..	7s. 6d. plus 1·8d. per unit	..
14. Brooders and incubators ..	..	..	..	..
15. Farm power ..	..	..	..	..
16. Milking sheds ..	..	..	..	..
17. Religious or non-profit organisations ..	..	..	..	..
18. Hospitals, schools, and institutions ..	..	..	..	..
19. Pumps ..	..	..	2s. 6d. per kVA plus tariff (1)	..
20. Welders ..	..	..	£1 fee plus tariff (1)	..
21. Restricted night hours ..	..	..	..	..
22. Intermittent and temporary ..	..	..	0·75d. per unit Fee plus 6d. per unit	..
23. Street lighting ..	..	..	..	..
24. Discounts ..	..	..	Net 15 per cent Per unit	..
25. Meter readings ..	..	..	..	..

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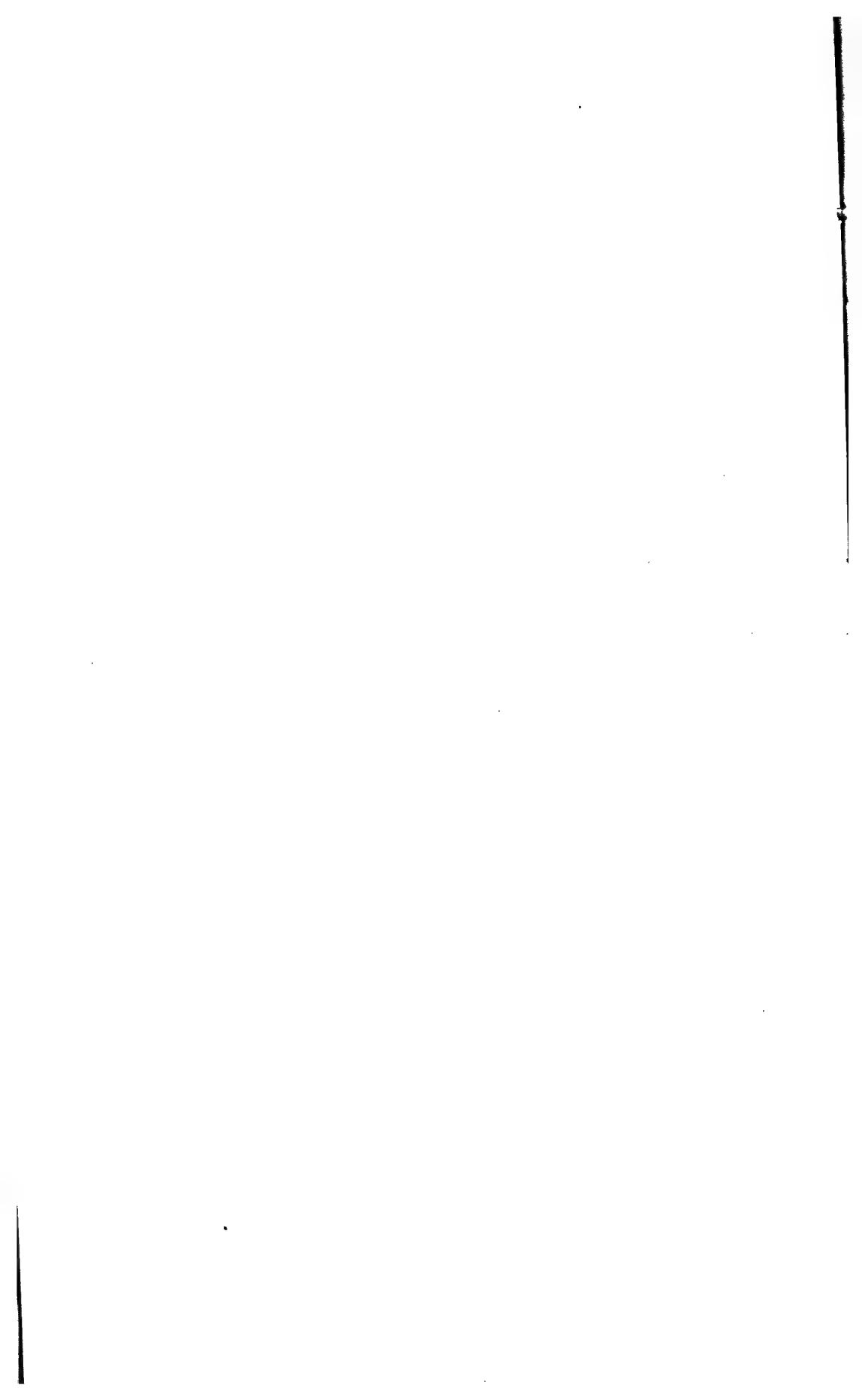
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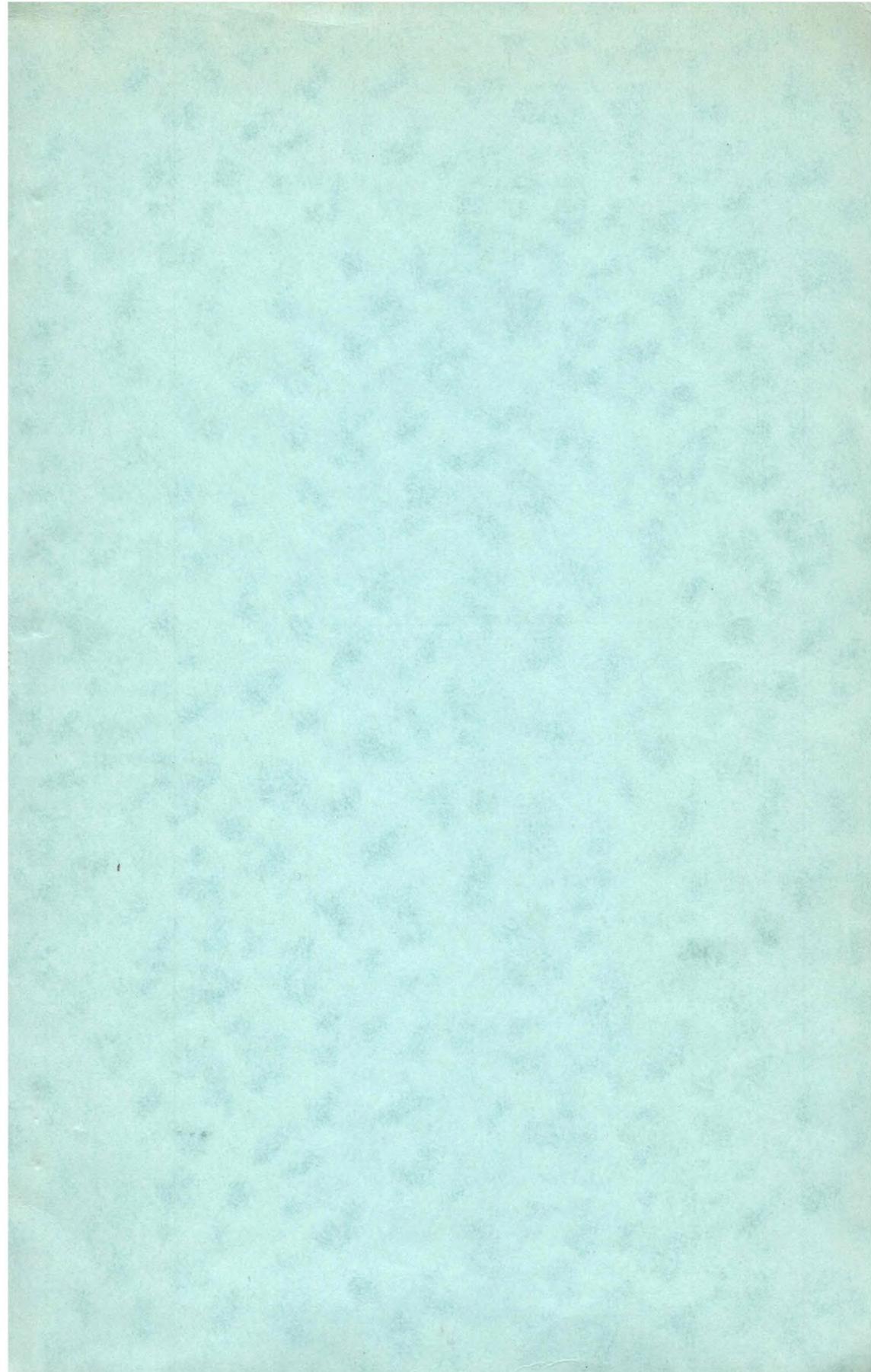
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## APPENDIX H

COMMISSION OF INQUIRY INTO THE  
DISTRIBUTION OF ELECTRICITY  
1959

### NEW ZEALAND

#### NORTH ISLAND

##### EXISTING ELECTRICITY SUPPLY AREAS.

Boundaries shown by ~  
Supply areas indicated by numbers



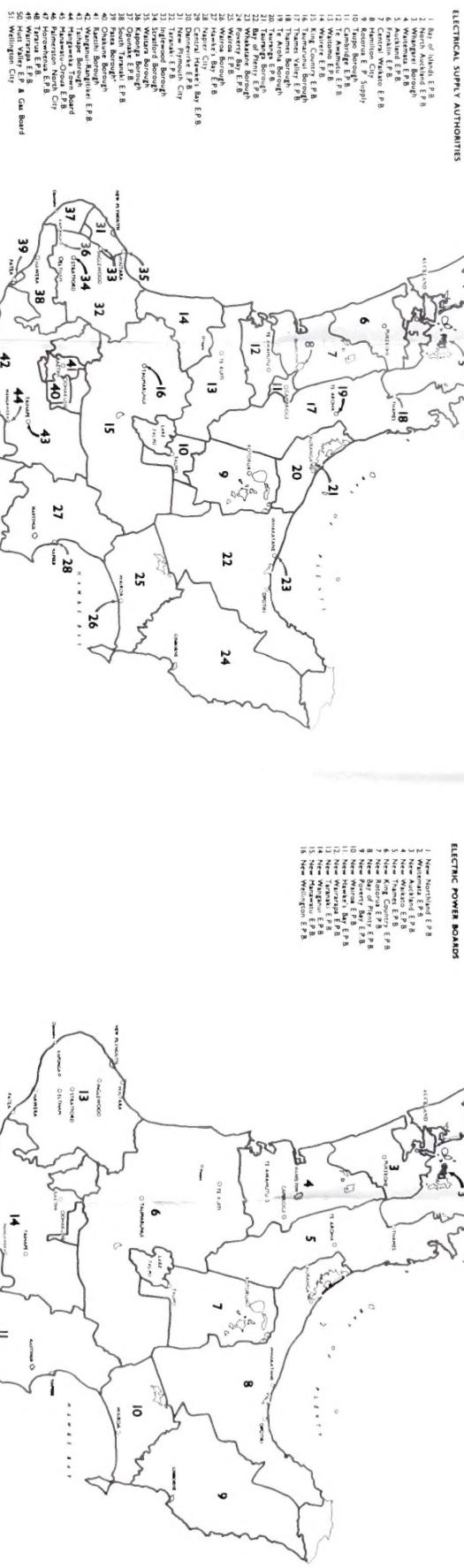
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1959

### NEW ZEALAND

#### SOUTH ISLAND

##### PROPOSED NEW ELECTRIC POWER BOARD AREAS

Boundaries shown by ~  
Proposed power areas



**APPENDIX H**

COMMISSION OF INQUIRY INTO THE  
DISTRIBUTION OF ELECTRICITY  
1959

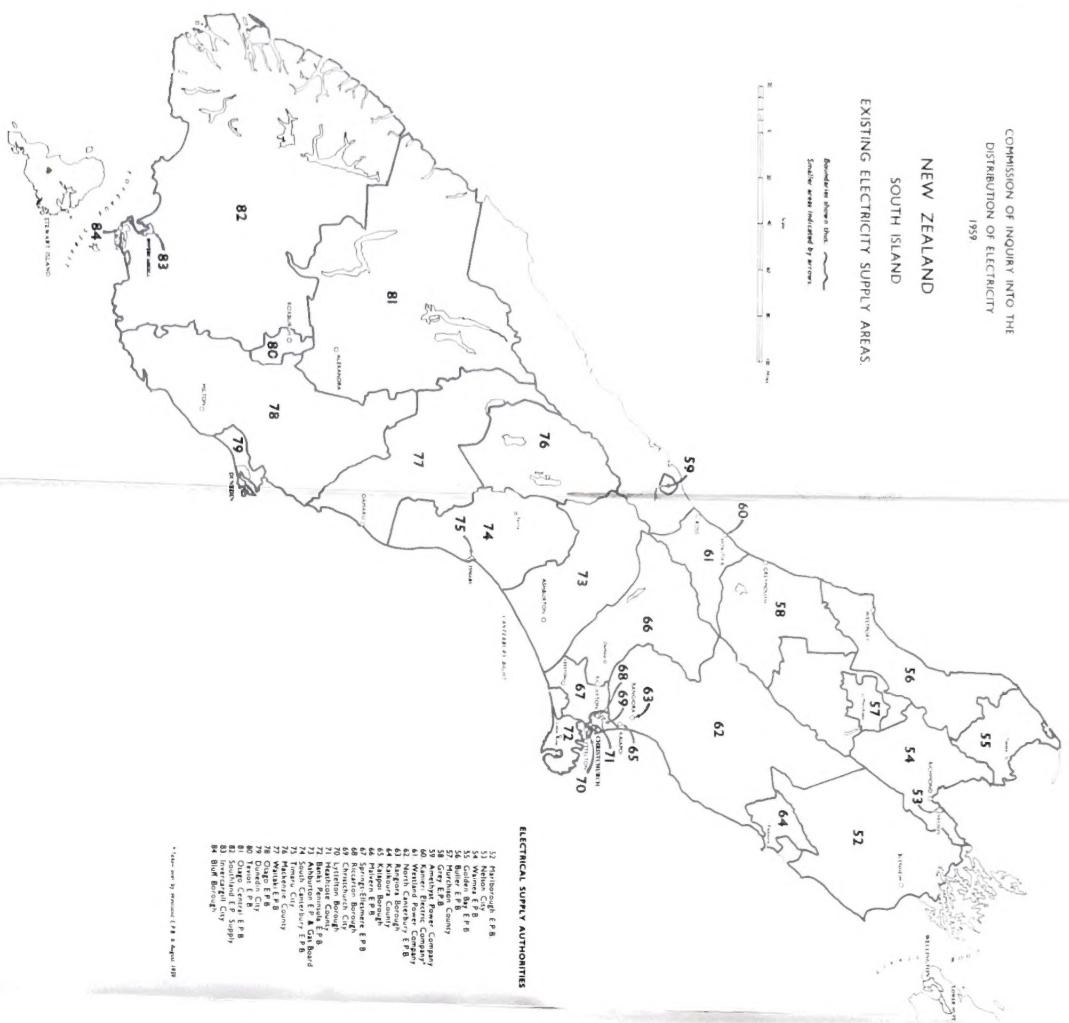
**NEW ZEALAND**

**SOUTH ISLAND**

**EXISTING ELECTRICITY SUPPLY AREAS.**

Borders are shown thus ~  
Supply areas indicated by numbers

Scale 1:1,000,000  
100 miles  
100 km



COMMISSION OF INQUIRY INTO THE  
DISTRIBUTION OF ELECTRICITY  
1959

**NEW ZEALAND**

**SOUTH ISLAND**

**PROPOSED NEW ELECTRIC POWER BOARD AREAS.**

Borders are shown thus ~

Scale 1:1,000,000  
100 miles  
100 km

**ELECTRICAL SUPPLY AUTHORITIES**

- 11 Nelson City E.P.B.
- 12 Wairau E.P.B.
- 13 Motueka E.P.B.
- 14 Riwaka E.P.B.
- 15 Rakaia E.P.B.
- 16 Rangitata E.P.B.
- 17 Hurunui County
- 18 Canterbury Power Company
- 19 Ashburton Power Company
- 20 Waimakariri Power Company
- 21 North Canterbury E.P.B.
- 22 Kaikoura County
- 23 Kaiteriteri Borough
- 24 Spring Bay E.P.B.
- 25 Carterton Borough
- 26 Blenheim Peninsula E.P.B.
- 27 Ashburton E.P.B.
- 28 Tasman E.P.B.
- 29 Marlborough County
- 30 Otago E.P.B.
- 31 Canterbury E.P.B.
- 32 North Canterbury E.P.B.
- 33 Hurunui E.P.B.
- 34 Rangitata E.P.B.
- 35 Waimakariri E.P.B.
- 36 Ashburton E.P.B.
- 37 Canterbury E.P.B.
- 38 Waimakariri E.P.B.
- 39 Canterbury E.P.B.
- 40 North Canterbury E.P.B.
- 41 Hurunui E.P.B.
- 42 Rangitata E.P.B.
- 43 Waimakariri E.P.B.
- 44 Canterbury E.P.B.
- 45 Hurunui E.P.B.
- 46 Rangitata E.P.B.
- 47 Waimakariri E.P.B.
- 48 Canterbury E.P.B.
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- 84 Canterbury E.P.B.

**ELECTRIC POWER BOARD**

